

## 5.5 Traffic and Circulation

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## 5.5 TRAFFIC/CIRCULATION

This section is based upon the *Traffic Impact Analysis Report for the Ocean Place Residential Project* (Traffic Impact Analysis), dated October 27, 2011, prepared by Linscott, Law & Greenspan Engineers (LLG), which is included as Appendix 11.5, *Traffic Impact Analysis*. The purpose of the Traffic Impact Analysis is to evaluate development of the proposed project from a traffic and circulation standpoint. This analysis considers impacts on local intersections and regional transportation facilities. Mitigation measures are recommended, if necessary, to avoid or reduce project impacts on traffic and circulation.

The Traffic Impact Analysis analyzes existing and future weekday daily, AM peak hour, and PM peak hour traffic conditions for the following conditions:

- Existing conditions (2011);
- Existing (2011) with project conditions;
- Year 2015 cumulative without project conditions;
- Year 2015 cumulative with project conditions;
- Year 2030 without project conditions; and
- Year 2030 with project conditions.

### 5.5.1 EXISTING SETTING

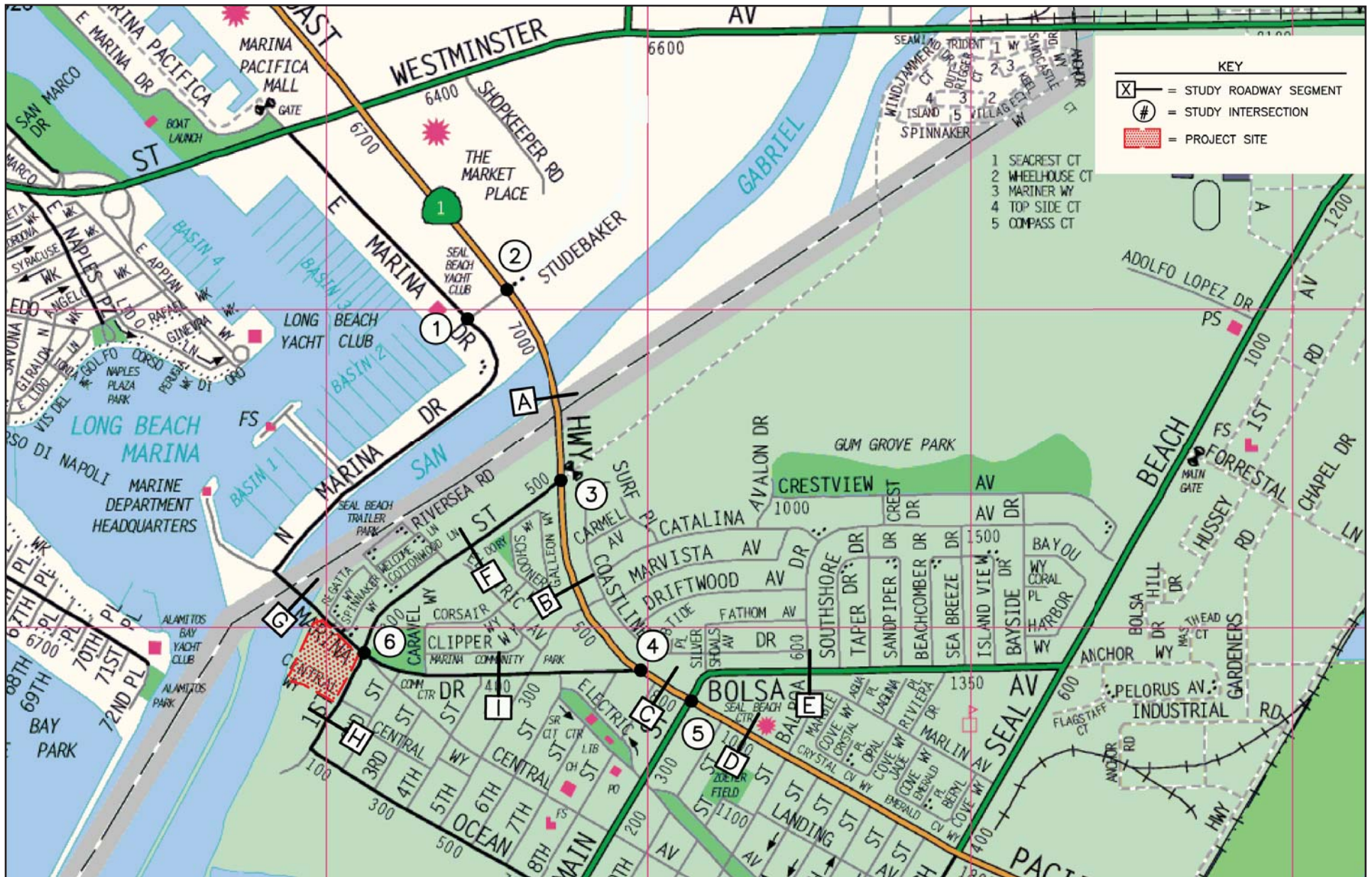
#### STUDY AREA

##### *Study Intersections and Roadway Segments*

The locations of the study intersections and roadway segments are listed below, along with the local jurisdictions in which the intersections are located; refer to Exhibit 5.5-1, *Location of Study Intersections and Roadway Segments*. Of the six identified intersections, four are located within the City of Seal Beach and two are located within the City of Long Beach. These intersections and roadway segments provide local access to the project area.

##### Study Intersections

1. Marina Drive/Studebaker Road (City of Long Beach);
2. Pacific Coast Highway/Studebaker Road (City of Long Beach);
3. Pacific Coast Highway/1<sup>st</sup> Street (City of Seal Beach);
4. Pacific Coast Highway/Marina Drive (City of Seal Beach);
5. Pacific Coast Highway/Main Street/Bolsa Avenue (City of Seal Beach); and
6. 1<sup>st</sup> Street/Marina Drive (City of Seal Beach).



Source: Linscott Law & Greenspan Engineers, October 27, 2011.

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## Location of Study Intersections and Roadway Segments

Exhibit 5.5-1

### Study Roadway Segments

- A. Pacific Coast Highway north of 1<sup>st</sup> Street;
- B. Pacific Coast Highway south of 1<sup>st</sup> Street;
- C. Pacific Coast Highway between Marina Drive and Main Street/Bolsa Avenue;
- D. Pacific Coast Highway south of Main Street/Bolsa Avenue;
- E. Bolsa Avenue east of Pacific Coast Highway;
- F. 1<sup>st</sup> Street north of Marina Drive;
- G. Marina Drive west of 1<sup>st</sup> Street;
- H. 1<sup>st</sup> Street south of Marina Drive; and
- I. Marina Drive east of 1<sup>st</sup> Street.

### ***Local Roadways***

The local network of streets serving the project area includes Pacific Coast Highway, Marina Drive and 1<sup>st</sup> Street; refer to Figure 3-1, *Exiting Roadway Conditions and Intersection Controls*, of the Traffic Impact Analysis (as provided in [Appendix 11.5](#)), which illustrates the existing roadway conditions for the study intersections and arterials, including number of travel lanes, intersection configurations, and intersection controls. The primary roadways within the study area are described below.

Pacific Coast Highway. Pacific Coast Highway is a four-lane, divided roadway generally oriented in the north-south direction. On-street parking is not permitted along this roadway in the vicinity of the project site, except south of Main Street/Bolsa Avenue. The posted speed limit on Pacific Coast Highway is 40 miles per hour (mph). Traffic signals control the study intersections of Pacific Coast Highway/Studebaker Road, Pacific Coast Highway/1<sup>st</sup> Street, and Main Street/Bolsa Avenue. Pacific Coast Highway is classified as a Primary Arterial (100-foot right-of-way) in the City of Seal Beach Circulation Element.

Marina Drive. Marina Drive is generally a two-lane roadway that borders the project site to the north. On-street parking is not permitted on Marina Drive west of 1<sup>st</sup> Street. However, on-street parking on Marina Drive is permitted east of 1<sup>st</sup> Street. The posted speed limit on Marina Drive is 35 mph. Marina Drive is classified as a Secondary Arterial (80-foot right-of-way) in the City of Seal Beach Circulation Element.

1<sup>st</sup> Street. 1<sup>st</sup> Street is a four-lane, divided roadway north of Marina Drive and a two-lane roadway south of Marina Drive. 1<sup>st</sup> Street borders the project site to the east. On-street parking is permitted on 1<sup>st</sup> Street in the vicinity of the project site. The posted speed limit on 1<sup>st</sup> Street is 40 mph north of Marina Drive and 30 mph south of Marina Drive. A traffic signal controls the study intersection of 1<sup>st</sup> Street at Pacific Coast Highway. 1<sup>st</sup> Street is classified as a Primary Arterial (100-foot right-of-way) north of Marina Drive and a Secondary Arterial (80-foot right-of-way) south of Marina Drive in the City of Seal Beach Circulation Element.

## ANALYSIS METHODOLOGY

The Traffic Impact Analysis is based upon the potential impacts associated with the proposed project. The traffic analysis evaluates existing operating conditions at key study intersections and roadway segments within the project vicinity, estimates the trip generation potential of the proposed project, and forecasts future operating conditions with and without the proposed project. For a detailed discussion of the analytical methodology, refer to [Appendix 11.5](#).

The Traffic Impact Analysis was coordinated with City of Seal Beach Public Works Department staff and follows the *City of Seal Beach Traffic Impact Study Guidelines* dated March 2010. The analysis is consistent with the requirements and procedures outlined in the most current *Congestion Management Program (CMP) for Orange County*. Given the project site's proximity to Los Angeles County (i.e. the City of Long Beach), the Traffic Impact Analysis is also consistent with the requirements and procedures outlined in the most current *Congestion Management Program (CMP) for Los Angeles County*.

### ***Existing Conditions***

Existing daily, AM peak hour and PM peak hour traffic volumes for six study intersections and nine roadway segments were obtained from traffic counts conducted by Transportation Studies Inc. in July 2010. As directed by City of Seal Beach staff, a growth factor of 1.0 percent per year was used to determine Year 2011 daily and peak hour traffic volumes (i.e., 1.0 percent growth from Year 2010 to Year 2011). Refer to [Appendix 11.5](#), as Appendix B of the Traffic Impact Analysis for daily and peak hour count sheets.

### ***Future Traffic Growth***

Horizon year, background traffic growth estimates have been calculated using an ambient traffic growth factor. The ambient traffic growth factor is intended to include unknown and future related projects in the study area, as well as account for regular growth in traffic volumes due to the development of projects outside the study area. The future growth in traffic volumes has been calculated at 1.0 percent per year. Applied to the year 2011 existing traffic volumes, this results in a 4.0 percent growth in existing volumes to near-term horizon year 2015 and a 19.0 percent growth in existing volumes to long-term horizon year 2030 (i.e., General Plan Target Year). Trips that would be generated from reasonably foreseeable and known planned development projects in the area (cumulative projects outlined in [Section 4.0, \*Basis of Cumulative Analysis\*](#), of this EIR) were also included in the analysis.

## INTERSECTION LEVEL OF SERVICE METHODOLOGY

### **Seal Beach and Long Beach**

#### ***Intersection Capacity Utilization (ICU) Method of Analysis***

In conformance with City of Seal Beach requirements, existing AM and PM peak hour operating conditions for the key signalized study intersections were evaluated using the Intersection Capacity Utilization (ICU) method. The ICU technique is intended for signalized intersection analysis and estimates the volume to capacity (V/C) relationship for an intersection based on the individual V/C ratios for key conflicting traffic movements. The ICU numerical value represents the percent signal

(green) time, and thus capacity, required by existing and/or future traffic. It should be noted that the ICU methodology assumes a uniform traffic distribution per intersection approach lane and optimal signal timing.

Per City of Seal Beach requirements, the ICU calculations use a lane capacity of 1,600 vehicles per hour (vph) for left-turn lanes and shared lanes, and a through lane and right-turn lane capacity of 1,700 vph. Per City of Seal Beach requirements, a clearance adjustment factor of 0.10 was added to each Level of Service (LOS) calculation.

For the two signalized study intersections located within the City of Long Beach's jurisdiction and per Los Angeles County CMP requirements, the ICU calculations use a lane capacity of 1,600 vph for left-turn, through, and right-turn lanes, and a dual left turn capacity of 2,880 vph. Per City of Long Beach requirements, a clearance adjustment factor, which varies between 0.10 and 0.18, was added to each LOS calculation based on the intersection's traffic signal phasing.

The ICU value translates to a LOS estimate, which is a relative measure of the intersection performance. The ICU value is the sum of the critical volume to capacity ratios at an intersection; it is not intended to be indicative of the LOS of each of the individual turning movements. The six qualitative categories of LOS have been defined along with the corresponding ICU value range and are shown in Table 5.5-1, *Level of Service Criteria for Signalized Intersections (ICU Methodology)*.

**Table 5.5-1  
Level of Service Criteria for Signalized Intersections (ICU Methodology)**

Level of Service (LOS)	Intersection Capacity Utilization Value (V/C)	Level of Service Description
A	0.00 – 0.60	Free Flow; Very low delay, less than 10.0 seconds per vehicle.
B	0.61 – 0.70	Rural Design; Delay in the range of 10.1 to 20.0 seconds per vehicle.
C	0.71 – 0.80	Urban Design; Delay in the range of 20.1 to 35.0 seconds per vehicle.
D	0.81 – 0.90	Maximum Urban Design; Delay ranges from 35.1 to 55.0 seconds per vehicle.
E	0.91 – 1.00	Capacity; Delay ranges from 55.1 to 80.0 seconds per vehicle.
F	≥ 1.01	Forced Flow; Delay in excess of 80.0 Seconds per vehicle.
Source: Linscott, Law and Greenspan Engineers, <i>Traffic Impact Analysis Report for the Ocean Place Residential Project</i> , October 27, 2011.		

### ***Highway Capacity Manual Method of Analysis***

The 2000 Highway Capacity Manual (HCM) unsignalized methodology for stop-controlled intersections was utilized for the analysis of the unsignalized intersections. This methodology estimates the average control delay for each of the subject movements and determines the LOS for each movement. For all-way stop controlled intersections, the overall average control delay is measured in seconds per vehicle, and LOS is then calculated for the entire intersection. For one-way and two-way stop-controlled (minor street stop-controlled) intersections, this methodology

estimates the worst side street delay, measured in seconds per vehicle and determines the LOS for that approach. The HCM control delay value translates to a LOS estimate, which is a relative measure of the intersection performance. Table 5.5-2, *Level of Service Criteria for Unsignalized Intersections (HCM Methodology)*, identifies the six qualitative categories of LOS along with the corresponding HCM control delay value range.

**Table 5.5-2  
Level of Service Criteria for Unsignalized Intersections (HCM Methodology)**

Level of Service (LOS)	Highway Capacity Manual Delay Value (sec/veh)	Level of Service Description
A	≤ 10.0	Little or no delay
B	> 10.0 and ≤ 15.0	Short traffic delays
C	> 15.0 and ≤ 25.0	Average traffic delays
D	> 25.0 and ≤ 35.0	Long traffic delays
E	> 35.0 and ≤ 50.0	Very long traffic delays
F	> 50.0	Severe congestion
sec = seconds; veh= vehicle.		
Source: Linscott, Law and Greenspan Engineers, <i>Traffic Impact Analysis Report for the Ocean Place Residential Project</i> , October 27, 2011.		

## CALTRANS

In conformance with the current *Caltrans Guide for the Preparation of Traffic Impact Studies*, existing and projected peak hour operating conditions at the three signalized state-controlled study intersections within the study area have been evaluated using the HCM method for signalized intersections for the operations method of analysis. These signalized state-controlled locations include the following three study intersections:

2. Pacific Coast Highway/Studebaker Road (City of Long Beach);
3. Pacific Coast Highway/1<sup>st</sup> Street (City of Seal Beach); and
5. Pacific Coast Highway/Main Street/Bolsa Avenue (City of Seal Beach).

## Highway Capacity Manual Method of Analysis

Based on the HCM operations method of analysis, LOS for signalized intersections is defined in terms of control delay, which is a measure of driver discomfort, frustration, fuel consumption, and lost travel time. The delay experienced by a motorist is made up of a number of factors that relate to control, geometries, traffic, and incidents. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during ideal conditions: in the absence of traffic control, geometric delay, and any incidents, and when there are no other vehicles on the road.

In accordance with the HCM, only the portion of total delay attributed to the control facility is quantified. This delay is called control delay. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. In contrast, in previous versions of the HCM (1994 and earlier), delay included only stopped delay. Specifically, LOS criteria for traffic

signals are stated in terms of the average control delay per vehicle. Table 5.5-3, *Level of Service Criteria for Signalized Intersections (HCM Methodology)*, identifies the six qualitative categories of LOS that have been defined along with the corresponding HCM control delay value range for signalized intersections.

**Table 5.5-3  
Level of Service Criteria for Signalized Intersections (HCM Methodology)**

Level of Service (LOS)	Control Delay Per Vehicle (sec/veh)	Level of Service Description
A	$\leq 10.0$	This level of service occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
B	$> 10.0$ and $\leq 20.0$	This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of average delay.
C	$> 20.0$ and $\leq 35.0$	Average traffic delays. These higher delays may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.
D	$> 35.0$ and $\leq 55.0$	Long traffic delays. At level D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	$> 55.0$ and $\leq 80.0$	Very long traffic delays. This level is considered by many agencies (i.e., SANBAG) to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent occurrences.
F	$\geq 80.0$	Severe congestion. This level, considered to be unacceptable to most drivers, often occurs with over saturation, that is, when arrival flow rates exceed the capacity of the intersection. It may also occur at high v/c ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing factors to such delay levels.
sec = seconds; veh= vehicle		
Source: Linscott, Law and Greenspan Engineers, <i>Traffic Impact Analysis Report for the Ocean Place Residential Project</i> , October 27, 2011.		

## ROADWAY SEGMENT LEVEL OF SERVICE METHODOLOGY

Per *City of Seal Beach Traffic Impact Study Guidelines*, a roadway segment evaluation is required when the proposed project would add more than one percent to the daily directional volume of a roadway segment that is located between two traffic signals. It has been determined that four study roadway segments require additional analysis; refer to Section 5.5.4, *Impacts and Mitigation Measures*. However, the four roadway segments are not located between two traffic signals and thus, cannot be evaluated

per the City's methodology. In order to evaluate the project's potential impact at these four locations, a daily volume-to-capacity calculation has been conducted. The volume-to-capacity calculation has been translated into a LOS, similar to peak hour intersection analysis. Table 5.5-4, Roadway Capacities, presents the daily roadway capacities per facility type based on the *City of Seal Beach General Plan* (General Plan) Circulation Element.

**Table 5.5-4  
Roadway Capacities**

Facility Type	Number of Lanes	LOS Criteria and Associated Roadway Capacity (vehicles per day) Values					
		A	B	C	D	E	F
Principal	8-lanes divided	45,000	52,500	60,000	67,500	75,000	--
Major	6-lanes divided	33,900	39,400	45,000	50,600	56,300	--
Primary	4-lanes divided	22,500	26,300	30,000	33,800	37,500	--
Secondary	4-lanes undivided	15,000	17,500	20,000	22,500	25,000	--
Commuter	2-lanes undivided	7,500	8,800	10,000	11,300	12,500	--

Source: Linscott, Law and Greenspan Engineers, *Traffic Impact Analysis Report for the Ocean Place Residential Project*, October 27, 2011.

## PERFORMANCE CRITERIA

### Intersections

The City of Seal Beach considers LOS D (ICU = 0.801 - 0.900) to be the minimum desirable LOS for all intersections. The City of Long Beach also considers LOS D (ICU = 0.801 - 0.900) to be the minimum acceptable LOS for all intersections.

Caltrans "endeavors to maintain a target LOS at the transition between LOS C and LOS D on State highway facilities"; it does not require that LOS D (shall) be maintained. For this analysis, LOS D is considered the target level of service standard and is utilized to assess the project impacts at the state-controlled study intersections.

### Roadway Segments

The City of Seal Beach considers LOS D to be the minimum desirable LOS for all roadway segments.

## EXISTING INTERSECTION LEVELS OF SERVICE

### Seal Beach and Long Beach

Table 5.5-5, *Existing Peak Hour Levels of Service – Seal Beach and Long Beach*, summarizes the existing peak hour LOS for the study intersections based on existing traffic volumes and current street geometry using the cities of Seal Beach and Long Beach analysis methodologies.

**Table 5.5-5  
Existing Peak Hour Levels of Service – Seal Beach and Long Beach**

Study Intersection	Jurisdiction	Control Type	AM Peak Hour		PM Peak Hour	
			ICU/HCM	LOS	ICU/HCM	LOS
1 Marina Drive/ Studebaker Road	Long Beach	All-Way Stop	9.4 sec/veh	A	11.2 sec/veh	B
2 Pacific Coast Highway/ Studebaker Road	Long Beach	6 Phase Traffic Signal	0.550	A	0.800	C
3 Pacific Coast Highway/ 1 <sup>st</sup> Street	Seal Beach	6 Phase Traffic Signal	0.565	A	0.602	B
4 Pacific Coast Highway/ Marina Drive	Seal Beach	One-Way Stop	14.7 sec/veh	B	21.1 sec/veh	C
5 Pacific Coast Highway/ Main St/Bolsa Ave	Seal Beach	5 Phase Traffic Signal	0.560	A	0.635	B
6 1 <sup>st</sup> Street/ Marina Drive	Seal Beach	All-Way Stop	8.4 sec/veh	A	9.8 sec/veh	A
ICU = Intersection Capacity Utilization; HCM = Highway Capacity Manual; sec = seconds; veh = vehicle.						
Source: Linscott, Law and Greenspan Engineers, <i>Traffic Impact Analysis Report for the Ocean Place Residential Project</i> , October 27, 2011.						

As indicated in Table 5.5-5, all study intersections are currently operating at an acceptable LOS during the AM and PM Peak hours based on City of Seal Beach and City of Long Beach performance criteria. The operations worksheets for this scenario are provided in Appendix 11.5, as Appendix C of the Traffic Impact Analysis.

### Caltrans

Table 5.5-6, *Existing Peak Hour Levels of Service – Caltrans*, summarizes the existing peak hour LOS for the study intersections based on existing traffic volumes and current street geometry using the Caltrans analysis methodology. As indicated in Table 5.5-6, all study intersections are currently operating at an acceptable LOS during the AM and PM Peak hours based on Caltrans performance criteria. The operations worksheets for this scenario are provided in Appendix 11.5, as Appendix E of the Traffic Impact Analysis.

**Table 5.5-6  
Existing Peak Hour Levels of Service – Caltrans**

Study Intersection		AM Peak Hour		PM Peak Hour	
		HCM (sec/veh)	LOS	HCM (sec/veh)	LOS
2	Pacific Coast Highway/Studebaker Road	21.8	C	31.6	C
3	Pacific Coast Highway/1 <sup>st</sup> Street	32.3	C	34.6	C
5	Pacific Coast Highway/Main St/Bolsa Ave	16.5	B	19.4	B
HCM = Highway Capacity Manual; sec = seconds; veh = vehicle.					
Source: Linscott, Law and Greenspan Engineers, <i>Traffic Impact Analysis Report for the Ocean Place Residential Project</i> , October 27, 2011.					

## EXISTING ROADWAY SEGMENT LEVELS OF SERVICE

As discussed previously, four study roadway segments require additional analysis; refer to [Section 5.5.4, \*Impacts and Mitigation Measures\*](#). As shown in [Table 5.5-7, \*Existing Roadways Level of Service\*](#), all four (4) roadway segments are forecast to operate at acceptable LOS A for Existing Conditions.

**Table 5.5-7  
Existing Roadways Level of Service**

Key Roadway Segment		No. of Existing Lanes	Arterial Classification	Existing Capacity at LOS "E"	Existing Traffic Conditions		
					Daily Volume	V/C Ratio	LOS
F.	1 <sup>st</sup> Street north of Marina Drive	4D	Primary Arterial	37,500	3,030	0.081	A
G.	Marina Drive west of 1 <sup>st</sup> Street	2D	Commuter	12,500	5,927	0.474	A
H.	1 <sup>st</sup> Street south of Marina Drive	2U	Commuter	12,500	3,784	0.303	A
I.	Marina Drive east of 1 <sup>st</sup> Street	2U	Commuter	12,500	4,342	0.347	A
D = divided; U = undivided; V/C = volume to capacity ratio							
Source: Linscott, Law and Greenspan Engineers, <i>Traffic Impact Analysis Report for the Ocean Place Residential Project</i> , October 27, 2011.							

## FORECAST YEAR 2015 CUMULATIVE CONDITIONS INTERSECTION LEVELS OF SERVICE

This section documents the forecast year 2015 baseline traffic conditions at the study intersections with ambient growth and traffic from cumulative projects without operation of the proposed project.

Figure 6-4, *Year 2015 Cumulative AM Peak Hour Traffic Volumes*, and Figure 6-5, *Year 2015 PM Peak Hour and Daily Traffic Volumes*, of the Traffic Impact Analysis (as provided in [Appendix 11.5](#)) provide the AM and PM peak-hour traffic volumes associated with the cumulative related projects. Figure 6-5 also shows Year 2015 daily cumulative traffic volumes at the study roadway segments.

## Seal Beach and Long Beach

*Table 5.5-8, Year 2015 Cumulative Without Project Peak Hour Intersection Analysis – Seal Beach and Long Beach*, summarizes the peak hour LOS results at the study intersections under Year 2015 cumulative without project conditions using the cities of Seal Beach and Long Beach analysis methodologies.

**Table 5.5-8  
Year 2015 Cumulative Without Project Peak Hour Intersection Analysis –  
Seal Beach and Long Beach**

Study Intersection		AM Peak Hour		PM Peak Hour	
		ICU/HCM	LOS	ICU/HCM	LOS
1	Marina Drive/Studebaker Road	9.6 sec/veh	A	11.5 sec/veh	B
2	Pacific Coast Highway/Studebaker Road	0.569	A	0.840	D
3	Pacific Coast Highway/1 <sup>st</sup> Street	0.588	A	0.634	B
4	Pacific Coast Highway/Marina Drive	15.5 sec/veh	C	24.3 sec/veh	C
5	Pacific Coast Highway/Main Street/Bolsa Avenue	0.587	A	0.676	B
6	1 <sup>st</sup> Street/Marina Drive	8.4 sec/veh	A	10.0 sec/veh	A
ICU = Intersection Capacity Utilization; HCM = Highway Capacity Manual; sec = seconds; veh = vehicle.					
Source: Linscott, Law and Greenspan Engineers, <i>Traffic Impact Analysis Report for the Ocean Place Residential Project</i> , October 27, 2011.					

As indicated in [Table 5.5-8](#), the study intersections are forecast to operate at an acceptable LOS under year 2015 cumulative (existing plus ambient growth plus related projects) without project conditions, based on City of Seal Beach and City of Long Beach performance criteria. The operations worksheets for this scenario are provided in [Appendix 11.5](#), as Appendix C of the Traffic Impact Analysis.

## Caltrans

*Table 5.5-9, Year 2015 Cumulative Without Project Peak Hour Intersection Analysis – Caltrans*, summarizes the peak hour LOS results at the study intersections under Year 2015 cumulative without project conditions using the Caltrans analysis methodology.

As indicated in [Table 5.5-9](#), the study intersections are forecast to operate at an acceptable LOS under year 2015 cumulative (existing plus ambient growth plus related projects) without project conditions based on City of Caltrans performance criteria. The operations worksheets for this scenario are provided in [Appendix 11.5](#), as Appendix E of the Traffic Impact Analysis.

**Table 5.5-9**  
**Year 2015 Cumulative Without Project Peak Hour Intersection Analysis – Caltrans**

Study Intersection		AM Peak Hour		PM Peak Hour	
		HCM (sec/veh)	LOS	HCM (sec/veh)	LOS
2	Pacific Coast Highway/Studebaker Road	22.1	C	32.8	C
3	Pacific Coast Highway/1 <sup>st</sup> Street	34.0	C	39.6	D
5	Pacific Coast Highway/Main St/Bolsa Ave	16.7	B	20.1	C
HCM = Highway Capacity Manual; sec = seconds; veh = vehicle.					
Source: Linscott, Law and Greenspan Engineers, <i>Traffic Impact Analysis Report for the Ocean Place Residential Project</i> , October 27, 2011.					

## FORECAST YEAR 2015 CUMULATIVE CONDITIONS ROADWAY SEGMENT LEVELS OF SERVICE

Table 5.5-10, *Year 2015 Cumulative Without Project Roadway Segment Level of Service*, summarizes the roadway segment LOS results at the four study roadway segments under Year 2015 cumulative without project conditions.

**Table 5.5-10**  
**Year 2015 Cumulative Without Project Roadway Segment Level of Service**

Key Roadway Segment		No. of Existing Lanes	Arterial Classification	Existing Capacity at LOS "E"	Existing Traffic Conditions		
					Daily Volume	V/C Ratio	LOS
F.	1 <sup>st</sup> Street north of Marina Drive	2U <sup>1</sup>	Commuter	12,500	3,171	0.254	A
G.	Marina Drive west of 1 <sup>st</sup> Street	2D	Commuter	12,500	6,187	0.495	A
H.	1 <sup>st</sup> Street south of Marina Drive	2U	Commuter	12,500	3,940	0.315	A
I.	Marina Drive east of 1 <sup>st</sup> Street	2U	Commuter	12,500	4,589	0.367	A
U = undivided; D = divided; V/C = volume to capacity ratio							
Notes:							
1. As part of the Marina Park Development project, 1 <sup>st</sup> Street north of Marina Drive will be narrowed from four lanes to two lanes (i.e., one travel lane in each direction). The cumulative analysis considers this key roadway as a "Commuter Arterial".							
Source: Linscott, Law and Greenspan Engineers, <i>Traffic Impact Analysis Report for the Ocean Place Residential Project</i> , October 27, 2011.							

As indicated in Table 5.5-10, the study roadway segments are forecast to operate at an acceptable LOS under year 2015 cumulative (existing plus ambient growth plus related projects) without project conditions based on City of Seal Beach performance criteria.

## EXISTING TRANSIT SERVICE

The project area is primarily served by bus transit lines operated by Orange County Transportation Authority (OCTA). Long Beach Transit (LBT) also provides service in proximity to the project site. Lines within the study area are described below.

OCTA Route 1. Provides services between El Camino Real and Avenida Santa Margarita in San Clemente to 7th Street and Channel Drive in Long Beach. Within the study area, Route 1 provides service along Pacific Coast Highway.

OCTA Route 42/42a. Provides services between the Village in the City of Orange and Pacific Coast Highway and Balboa Drive, within the study area.

LBT Route 131. Provides services between Electric and Main Street, near the study area, to the Wardlow Station in Long Beach, which provides access to the Metro Blue Line.

LBT Route 171. Provides services between Electric and Main Street, near the study area, to Pacific Coast Highway/Cabrillo in Long Beach.

## EXISTING PEDESTRIAN AND BICYCLE FACILITIES

Sidewalks are located along the northern and eastern boundaries of the project site, adjacent to Marina Drive and 1<sup>st</sup> Street, respectively. Along 1<sup>st</sup> Street, the sidewalk extends from Marina Drive south to Ocean Avenue, where it currently terminates prior to the project site's southern boundary.

The western portion of the project site consists of the San Gabriel River and associated bike trail (San Gabriel River Bike Trail). The San Gabriel River Bike Trail is a paved regional recreational trail along the eastern boundary of the San Gabriel River. It extends for a length of approximately 35 miles, generally in a north to south orientation. The trail terminates to the south of the project site at the River's End Staging Area. The trail is a Class I Bikeway (i.e., a path intended exclusively for bicycle and pedestrian use, completely separated from automobile traffic). Class II Bikeways (i.e., a striped lane for one-way travel within the street right-of-way) extend east from the San Gabriel River Bike Trail on Marina Drive.

### 5.5.2 REGULATORY SETTING

#### CALIFORNIA DEPARTMENT OF TRANSPORTATION

Caltrans publishes a document entitled *Guide for the Preparation of Traffic Impact Studies*, which provides guidelines and recommended elements of traffic studies for projects that could potentially impact state facilities such as State Route highways and freeway facilities. This is a State-level document that is used by each of the Caltrans District offices.

The Guide defines when traffic studies should be conducted to address impacts to state facilities, but does not define quantitative impact standards. The Guide states that Measures of Effectiveness (MOEs) are used to evaluate Caltrans facilities, and that the agency strives to maintain a LOS value

of C on its facilities. However, the Guide states that the appropriate target LOS varies by facility and congestion level, and is defined differently by Caltrans depending on the analyzed facility.

## **ORANGE COUNTY TRANSPORTATION AUTHORITY**

OCTA is a multi-modal transportation agency that began in 1991 with the consolidation of seven separate agencies. OCTA serves Orange County residents and travelers by providing countywide bus and paratransit service, Metrolink rail service, the 91 Express Lanes, freeway, street and road improvement projects, individual and company commuting solutions, motorist aid services and by regulating taxi operations. State statute requires that a congestion management program be developed, adopted, and updated biennially for every county that includes an urbanized area and requires that it include every city and the county government within that county. As the Congestion Management Agency for Orange County, OCTA is responsible for implementing the CMP for the County.

The purpose of the Orange County CMP is to develop a coordinated approach to managing and decreasing traffic congestion by linking the various transportation, land use, and air quality planning programs throughout the County. The City of Seal Beach is required to show continued compliance with the countywide CMP. The benefits of compliance with the CMP provisions include the allocation of the City's fair share of gas tax subventions collected by the State of California.

## **LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY**

The Los Angeles County Metropolitan Transportation Authority (Metro) is responsible for the continuous improvement of an efficient and effective transportation system for the County of Los Angeles. Metro's service area covers approximately 1,433 square miles. State statute requires that a congestion management program be developed, adopted, and updated biennially for every county that includes an urbanized area and requires that it include every city and the county government within that county. As the Congestion Management Agency for Los Angeles County, Metro is responsible for implementing the CMP for the County.

Since the CMP became effective with the passage of Proposition 111 in 1990, it has become an effective tool in linking transportation, land use, and air quality decisions for the Country. The CMP addresses the impact of local growth on the regional transportation system. Statutory elements of the CMP include Highway and Roadway System monitoring, multi-modal system performance analysis, the Transportation Demand Management Program, the Land Use Analysis Program, and local conformance for all of the County's jurisdictions.

## **CITY OF SEAL BEACH**

### **City of Seal Beach General Plan**

The Circulation Element of the General Plan serves as the City's primary guide for transportation planning. The Circulation Element is concerned with accommodating the transportation needs of those living, working, and visiting the City. Its objective is to articulate the City's vision and plans

for the ongoing development and maintenance of a comprehensive circulation network that will efficiently move people and goods throughout the City of Seal Beach and the surrounding region.

The Circulation Element focuses on roadways and other transportation modes, including public transit, railroads, and bicycle paths that provide a full range of travel options. Also included is an assessment of the City's current roadway system and recommendations for the improvements necessary to maintain acceptable levels of service on this system in the forecast General Plan buildout.

Circulation Element policies that pertain to the proposed project include, but are not limited to, the following:

- Ensure that primary and secondary roadways are able to be used for evacuating persons from their homes during emergency conditions or for ingress when emergency response units are needed.
- Maintain a citywide Level of Service (LOS) not exceeding LOS D for roadway segments and intersections during the peak hours. The study area intersections that are projected to operate at worse than Level of Service D (with improvements) are all located along Pacific Coast Highway (SR-1). The relatively high levels of traffic along this corridor are a direct result of increased development outside of the City of Seal Beach and the congestion along the I-405 Freeway. The City of Seal Beach General Plan Circulation Element and the Orange County Master Plan of Arterial Highways (MPAH) depict Pacific Coast Highway (SR-1) as a Primary highway (4 lanes divided). As a Primary highway (4 lanes divided), there is insufficient capacity along Pacific Coast Highway (SR-1) to accommodate the existing as well as future traffic volumes.
- Assess all development projects in order to identify their traffic impacts and require that they pay their fair share of the system improvements necessary to accommodate traffic generated by the project.
- Limit the number of driveways on arterial streets to reduce vehicular conflict and facilitate traffic flow.
- Require new development to install traffic signals at intersections on arterials that, based on individual study, are shown to satisfy traffic signal warrants.
- Construct safe, convenient paths for bicycles and pedestrians so as to encourage these alternative forms of transportation.
- Ensure accessibility of pedestrian facilities to the elderly and disabled.
- Require the installation of sidewalks with all new roadway construction and significant reconstruction of existing roadways.

### 5.5.3 IMPACT THRESHOLDS AND SIGNIFICANCE CRITERIA

#### DEFINITION OF SIGNIFICANT IMPACT

##### Significant Study Intersection Traffic Impact Criteria

Traffic impacts are identified if a project would result in a significant adverse change in traffic conditions on an analyzed facility. A significant impact is typically identified if traffic generated by a project would cause service levels to deteriorate beyond a threshold limit specified by the overseeing agency. Impacts can also be significant if an intersection is already operating below the poorest acceptable level and project traffic would substantially worsen the condition, thereby causing a further decline below the threshold.

##### *City of Seal Beach*

For those study intersections within the jurisdiction of the City of Seal Beach (i.e., Pacific Coast Highway/1<sup>st</sup> Street, Pacific Coast Highway/Marina Drive, Pacific Coast Highway/Main Street-Bolsa Avenue and 1<sup>st</sup> Street/Marina Drive), impacts to local and regional transportation systems are considered significant if:

- An unacceptable peak hour LOS (i.e., LOS E or F) at any of the key intersections is projected. The City of Seal Beach considers LOS D (ICU = 0.801 - 0.900) to be the minimum desirable LOS for all intersections; and
- A significant transportation impact is determined based on the sliding scale criteria presented in Table 5.5-11, *City of Seal Beach Intersection Impact Threshold Criteria*. As indicated in Table 5.5-11, the project-related increase in ICU value that defines a significant impact varies with LOS. At LOS A or B, the threshold of significance is an increase of 0.06 or greater. At LOS C or LOS D, the threshold of significance is an increase of 0.04 or greater or 0.02 or greater, respectively. At LOS E and F, the threshold of significant is an increase of 0.01 or greater.

**Table 5.5-11  
City of Seal Beach Intersection Impact Threshold Criteria**

Level of Service	Final ICU	Project-Related Increase in ICU
A, B	0.00 – 0.69	0.06 or more
C	0.70 – 0.79	0.04 or more
D	0.80 – 0.89	0.02 or more
E, F	0.90 or more	0.01 or more
ICU = Intersection Capacity Utilization		
Source: Linscott, Law and Greenspan Engineers, <i>Traffic Impact Analysis Report for the Ocean Place Residential Project</i> , October 27, 2011.		

- At uncontrolled intersections, the City of Seal Beach uses the degradation of an LOS for the threshold of significance. A significant traffic impact occurs when the addition of project traffic results in a decrease in LOS by one level or more for those locations operating at LOS D or E.

### ***City of Long Beach***

For those study intersections within the jurisdiction of the City of Long Beach (i.e., Marina Drive/Studebaker Road and Pacific Coast Highway/Studebaker Road), impacts to local and regional transportation systems are considered significant if:

- An unacceptable peak hour LOS (i.e., LOS E or F) at any of the key intersections is projected. The City of Long Beach considers LOS D ( $ICU = 0.801 - 0.900$ ) to be the minimum acceptable LOS for all intersections. For the City of Long Beach, the current LOS, if worse than LOS D (i.e., LOS E or F), should also be maintained; and
- The project increases traffic demand at the study intersection by 2 percent of capacity ( $ICU \text{ increase} \geq 0.020$ ), causing or worsening LOS E or F ( $ICU > 0.901$ ). At unsignalized intersections, a “significant” adverse traffic impact is defined as a project that: adds 2.0 percent or more traffic delay (seconds per vehicle) at an intersection operating at LOS E or F.

### ***Caltrans***

Caltrans “endeavors to maintain a target LOS at the transition between LOS C and LOS D on State highway facilities”; it does not require that LOS D (shall) be maintained. However, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. As stated, for this analysis, LOS D is considered the target level of service standard and is utilized to assess the project impacts at the state-controlled study intersections.

## **Significant Study Roadway Segment Traffic Impact Criteria**

Per *City of Seal Beach Traffic Impact Study Guidelines*, a roadway segment evaluation is required when the proposed Project will add more than one percent (1.0%) to the daily directional volume of a roadway segment that is located between two traffic signals. As previously discussed, four roadway segments require analysis per the 1.0% limit. These four roadway segments are not located between two traffic signals and thus they cannot be evaluated per the City’s methodology. To evaluate the project’s potential impact at these four locations, a daily volume-to-capacity calculation can be conducted. The volume-to-capacity calculation can then be translated into a level of service, similar to peak hour intersection analysis. The City of Seal Beach considers LOS D to be the minimum acceptable LOS for all roadway segments. The LOS D capacity of a roadway segment is typically utilized in determining the level of service of a roadway segment.

## Significance Criteria

Environmental impact thresholds as indicated in Appendix G of the *CEQA Guidelines* (Initial Study Checklist Form) are also used as significance thresholds in this analysis. As such, a project would create a significant impact if it would:

- Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit (refer to Impact Statements TRA-1, TRA-2, and TRA-3);
- Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways (refer to Impact Statement TRA-4);
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks; refer to Section 8.0, *Effects Found Not To Be Significant*;
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment) (refer to Impact Statement TRA-5);
- Result in inadequate emergency access; refer to Section 8.0, *Effects Found Not To Be Significant*; and
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities (refer to Impact Statement TRA-6).

## 5.5.4 IMPACTS AND MITIGATION MEASURES

### CONSTRUCTION TRAFFIC GENERATION

#### **TRA-1 PROJECT CONSTRUCTION COULD CAUSE A SIGNIFICANT INCREASE IN TRAFFIC FOR EXISTING CONDITIONS WHEN COMPARED TO THE TRAFFIC CAPACITY OF THE STREET SYSTEM.**

**Impact Analysis:** Construction activities at the project site would include site preparation and site grading. The following assumptions were utilized for truck trips and worker trips:

- The daily number of truck trips were averaged over the nine-hour workday to obtain the number of peak hour truck trips (50 percent entering and 50 percent exiting);

- All truck trips were converted to passenger car equivalents (PCE) using a PCE factor of 2.0; and
- Each employee would make two trips per day (one during the AM peak hour and one during the PM peak hour).

Table 5.5-12, *Project Construction Traffic Generation*, provides a summary of the forecast construction peak hour and daily traffic volumes for each of the project construction components.

**Table 5.5-12  
Project Construction Traffic Generation**

Construction Component	Daily 2-Way	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
Site Preparation							
Workers (5 workers)	10	5	0	5	0	5	5
Total Site Preparation Construction Traffic	10	5	0	5	0	5	5
Site Grading							
Construction Truck Traffic (8 trucks)	144	8	8	16	8	8	16
Passenger Car Equivalent Factor <sup>1</sup>	2	2	2	2	2	2	2
Subtotal	288	16	16	32	16	16	32
Workers (10 workers)	20	10	0	10	0	10	10
Total Site Grading Construction Traffic	308	26	16	42	16	26	42
A passenger car equivalent factor of 2.0 was applied to the truck trips to convert them into passenger car trips.							
Source: Linscott, Law and Greenspan Engineers, <i>Traffic Impact Analysis Report for the Ocean Place Residential Project</i> , October 27, 2011.							

As indicated in Table 5.5-12, site preparation is expected to generate 10 daily trips with 5 trips (5 inbound and 0 outbound) produced during the AM peak hour and 5 trips (0 inbound and 5 outbound) produced during the PM peak hour. Site grading is expected to generate 308 daily trips with 42 trips (26 inbound and 16 outbound) produced during the AM peak hour and 42 trips (16 inbound and 26 outbound) produced during the PM peak hour.

Although the proposed project would involve additional construction activities associated with undergrounding of utilities and development of the residential uses, these construction activities would not occur concurrently with site preparation and grading activities and would generate fewer trips when compared to site preparation and grading activities.

Construction related trips associated with trucks and employees traveling to and from the project site may result in minor traffic delays within the project area. However, the potential traffic interference caused by construction vehicles would only be a temporary, short-term impact to vehicles using Marina Drive and 1<sup>st</sup> Street in the morning and afternoon hours. Further, the number of construction workers would vary depending on the specific construction activities over time. Thus, traffic impacts to the adjacent roadway network would be minimal and not long-term. Additionally, the construction-related trip generation potential is similar to that of the proposed project; and as indicated in the Project Traffic Generation discussion below, the proposed project is not expected to significantly impact any of the six study intersections and nine roadway segments

within the project area. Thus, no significant impacts resulting from construction traffic are anticipated, aside from the nuisance traffic that would occur as a result of construction-related traffic (e.g., construction materials, construction workers, etc.).

Construction-related parking associated with Tentative Tract Map No. 17425 would occur off-site within the River's End Staging Area, which typically has excess parking capacity or within a temporary parking area within the 6.5-acre open space area. Thus, no significant impacts to surrounding roadways resulting from construction parking are anticipated.

In order to reduce the impact of construction-related traffic, implementation of a construction management plan would be developed to implement a variety of measures to minimize traffic and parking impacts upon the local circulation system (Mitigation Measure TRA-1). The construction management plan would include, but not be limited to: prohibit construction worker parking along local streets, identify appropriate haul routes to avoid traffic disruptions, and limit hauling activities to off-peak hours. Implementation of a construction management plan would ensure potential impacts associated with construction related traffic would be reduced to a less than significant level.

***Mitigation Measures:***

TRA-1 Prior to Issuance of any grading and/or demolition permits, whichever occurs first, a Construction Management Plan shall be submitted for review and approval by the Director of Development Services. The Construction Management Plan shall, at a minimum, address the following:

- Traffic control for any street closure, detour, or other disruption to traffic circulation.
- Identify the routes that construction vehicles will utilize for the delivery of construction materials (i.e., lumber, tiles, piping, windows, etc.), to access the site, traffic controls and detours, and proposed construction phasing plan for the project.
- Specify the hours during which transport activities can occur and methods to mitigate construction-related impacts to adjacent streets.
- Require the Applicant to keep all haul routes clean and free of debris, including but not limited to gravel and dirt as a result of its operations. The Applicant shall clean adjacent streets, as directed by the City Engineer (or representative of the City Engineer), of any material which may have been spilled, tracked, or blown onto adjacent streets or areas.
- Hauling or transport of oversize loads shall be allowed between the hours of 9:00 AM and 3:00 PM only, Monday through Friday, unless approved otherwise by the City Engineer. No hauling or transport will be allowed during nighttime hours, weekends, or Federal holidays.
- Use of local streets shall be prohibited.
- Haul trucks entering or exiting public streets shall at all times yield to public traffic.
- If hauling operations cause any damage to existing pavement, streets, curbs, and/or gutters along the haul route, the applicant shall be fully responsible for repairs. The repairs shall be completed to the satisfaction of the City Engineer.
- All constructed-related parking and staging of vehicles shall be kept out of the adjacent public roadways and shall occur on-site or in public parking lots.

- This Plan shall meet standards established in the current California Manual on Uniform Traffic Control Device (MUTCD) as well as City of Seal Beach requirements.

**Level of Significance:** Less Than Significant With Mitigation Incorporated.

## PROJECT TRAFFIC GENERATION

### TRA-2 PROJECT IMPLEMENTATION WOULD NOT CAUSE A SIGNIFICANT INCREASE IN TRAFFIC FOR EXISTING AND FORECAST YEAR 2015 CONDITIONS WHEN COMPARED TO THE TRAFFIC CAPACITY OF THE STREET SYSTEM.

**Impact Analysis:** The proposed project would allow for the development of a 48-lot residential development (proposed Tentative Tract Map No. 17425) on approximately 4.5 acres in the northern portion of the project site. The proposed project would include the finished pads and all infrastructure necessary to serve the new residential development. Residential units would be developed individually by homeowners as custom homes, depending on market conditions and demand. The remaining approximately 6.4 acres of the project site would be used for open space/passive recreation uses.

#### Project Trip Generation

Traffic generation is expressed in vehicle trip ends, defined as one-way vehicular movements, either entering or exiting the generating land use. Generation equations and/or rates used in the traffic forecasting procedure are found in the *8th Edition of Trip Generation*, published by the Institute of Transportation Engineers (2008) and *San Diego Traffic Generators*, published by San Diego Association of Governments (SANDAG) (2002). The proposed 6.4 acres of open space/parkland located adjacent to Tentative Tract Map No. 17425, and is expected to include passive recreational uses such as, but not limited to, natural areas with trails, passive turf areas, and neighborhood-serving play areas (e.g., tot lots). Trips were developed for the open space/parkland portion of the proposed project to provide a conservative trip generation forecast using SANDAG Neighborhood Park (undeveloped) trip rates.

Table 5.5-13, *Project Trip Generation*, presents the forecast daily and peak hour traffic volumes for the proposed project for a typical weekday.

**Table 5.5-13  
Project Trip Generation**

Land Use	Daily 2-Way	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
Single Family Detached (ITE Code 210)	529	11	32	43	34	20	54
Neighborhood Park (6.4 acres)	32	2	2	4	2	1	3
<b>Total</b>	<b>561</b>	<b>13</b>	<b>34</b>	<b>47</b>	<b>36</b>	<b>21</b>	<b>57</b>
Source: Linscott, Law and Greenspan Engineers, <i>Traffic Impact Analysis Report for the Ocean Place Residential Project</i> , October 27, 2011.							

As indicated in [Table 5.5-13](#), the proposed project is forecast to generate approximately 561 daily trips, with 47 trips (13 inbound, 34 outbound) produced in the AM peak hour and 57 trips (36 inbound, 21 outbound) produced in the PM peak hour.

#### *Project Trip Distribution and Assignment*

The general, directional traffic distribution pattern for the proposed project is presented in Figure 5-1, *Project Traffic Distribution Pattern*, of the Traffic Impact Analysis (as provided in [Appendix 11.5](#)). Project traffic volumes both entering and exiting the project site have been distributed and assigned to the adjacent street system based on the following considerations:

- The project site's proximity to major traffic carriers (i.e., Pacific Coast Highway, etc.);
- Expected localized traffic flow patterns based on adjacent street channelization and presence of traffic signals;
- Existing intersection traffic volumes; and
- Ingress/egress availability at the project site.

The anticipated AM and PM peak hour traffic volumes associated with the project are presented in Figure 5-2, *AM Peak Hour Project Traffic Volumes*, and Figure 5-3, *PM Peak Hour and Daily Project Traffic Volumes*, of the Traffic Impact Analysis (as provided in [Appendix 11.5](#)). Figure 5-3 also presents the daily project traffic volumes at the study roadway segments. The traffic volume assignments presented in Figures 5-2 and 5-3 reflect the traffic distribution characteristics shown in Figure 5-1.

#### Existing With Project Conditions

The "Existing With Project" scenario was prepared as a result of a recent Sixth District Court of Appeal decision in *Sunnyvale West Neighborhood Association v. City of Sunnyvale City Council* (2010) 190 Cal.App.4th 1351, which invalidated an EIR prepared for a roadway extension project because it used projected traffic conditions in the year 2020, based on expected growth under the City of Sunnyvale's General Plan and in neighboring communities as its "baseline" to evaluate the roadway project's traffic and related impacts. The City in that case took this approach because the project lacked funding and would have taken several years to design and construct. In rejecting the EIR's analysis, the court found that use of such a baseline could not be upheld since, in the court's view, CEQA requires a straightforward assessment of the impacts produced by the project alone on the existing environment "normally" meant to be those conditions at the time of issuance of the Notice of Preparation. (CEQA Guidelines, Section 15125, subd. (a).) Thus, according to the court's reasoning, the analysis within an EIR must consider the impacts of a project at or prior to the date of project approval.

The analyses contained within the traffic and noise studies for this DEIR therefore include an analysis of "Existing With Project" impacts, as required by the recent *Sunnyvale* decision. This is despite the fact that, if approved, the project would not reach peak operational levels until at least 2015.

*Peak Hour Intersection Level of Service*

Figure 5-4, *Existing Plus Project AM Peak Hour Traffic Volumes*, and Figure 5-5, *Existing Plus Project PM Peak Hour and Daily Traffic Volumes*, of the Traffic Impact Analysis (as provided in [Appendix 11.5](#)) illustrate the projected weekday AM and PM peak hour traffic volumes at the study intersections with the addition of project-generated trips to existing peak hour traffic volumes. Figure 5-5 also illustrates the existing with project daily traffic volumes at the study roadway segments. [Table 5.5-14, Existing With Project Peak Hour Intersection Analysis](#), summarizes the peak hour LOS results at the study intersections for existing with project conditions.

**Table 5.5-14  
Existing With Project Peak Hour Intersection Analysis**

Study Intersection		Existing Without Project				Existing With Project				Significant Impact			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		ICU/HCM	LOS	ICU/HCM	LOS	ICU/HCM	LOS	ICU/HCM	LOS	Increase	Yes/No	Increase	Yes/No
1	Marina Drive/ Studebaker Road	9.4 sec/veh	A	11.2 sec/veh	B	9.4 sec/veh	A	11.3 sec/veh	B	0.0 sec/veh	No	0.1 sec/veh	No
2	Pacific Coast Hwy/ Studebaker Road	0.550	A	0.800	C	0.552	A	0.808	D	0.002	No	0.008	No
3	Pacific Coast Highway/1 <sup>st</sup> Street	0.565	A	0.602	B	0.571	A	0.616	B	0.006	No	0.014	No
4	Pacific Coast Hwy/ Marina Drive	14.7 sec/veh	B	21.1 sec/veh	C	14.9 sec/veh	B	21.6 sec/veh	C	0.2 sec/veh <sup>2</sup>	No	0.5 sec/veh <sup>2</sup>	No
5	Pacific Coast Hwy/ Main Street/ Bolsa Avenue	0.560	A	0.635	B	0.562	A	0.638	B	0.002	No	0.003	No
6	1 <sup>st</sup> Street/ Marina Drive	8.4 sec/veh	A	9.8 sec/veh	A	8.5 sec/veh	A <sup>1</sup>	10.0 sec/veh	A	0.1 sec/veh <sup>2</sup>	No	0.2 sec/veh <sup>2</sup>	No
ICU = Intersection Capacity Utilization; HCM = Highway Capacity Manual; sec = seconds; veh = vehicle.													
Note:													
1. The LOS calculations for this intersection consider the proposed street vacation of 1 <sup>st</sup> Street that would result in the provision of one southbound departure lane, one left-turn lane and a shared through/right-turn lane on the northbound approach of 1 <sup>st</sup> Street at Marina Drive, and the removal of one southbound through lane on 1 <sup>st</sup> Street at Marina Drive; refer to Figure 2-1, <i>Proposed Site Plan</i> , of the Traffic Impact Analysis (as provided in <a href="#">Appendix 11.5</a> ) for intersection lane assignments.													
2. At uncontrolled intersections, the City of Seal Beach uses the degradation of an LOS for the threshold of significance. A significant impact would occur if the addition of project traffic results in a decrease in LOS by one level or more for those intersections operating at LOS D or E.													
Source: Linscott, Law and Greenspan Engineers, <i>Traffic Impact Analysis Report for the Ocean Place Residential Project</i> , October 27, 2011.													

As indicated in [Table 5.5-14](#), all study intersections are anticipated to operate at an acceptable LOS based on City of Seal Beach and City of Long Beach performance criteria.

*Roadway Segment Level of Service*

As stated, a roadway segment evaluation is required when the proposed project would add more than one percent to the daily directional volume of a roadway segment that is located between two traffic signals. [Table 5.5-15, Roadway Segment Analysis Requirement](#), provides the project's ADT traffic volumes and associated traffic volume percentage for the study roadway segments.

As indicated in [Table 5.5-15](#), the following four roadway segments require additional analysis:

- Segment F – 1<sup>st</sup> Street north of Marina Drive;
- Segment G – Marina Drive west of 1<sup>st</sup> Street;
- Segment H – 1<sup>st</sup> Street south of Marina Drive; and
- Segment I – Marina Drive east of 1<sup>st</sup> Street.

**Table 5.5-15  
Roadway Segment Analysis Requirement**

Roadway Segment		Project ADT Traffic Volume	Existing With Project ADT Traffic Volume	Project Percentage (%)	Roadway Segment Analysis Required (Yes/No) <sup>1</sup>
A	Pacific Coast Highway north of 1 <sup>st</sup> Street	309	37,654	0.8	No
B	Pacific Coast Highway south of 1 <sup>st</sup> Street	56	35,551	0.2	No
C	Pacific Coast Highway between Marina Drive and Main Street/Bolsa Avenue	169	37,004	0.5	No
D	Pacific Coast Highway south of Main Street/ Bolsa Avenue	126	32,626	0.4	No
E	Bolsa Avenue east of Pacific Coast Hwy	42	5,096	0.8	No
F	1 <sup>st</sup> Street north of Marina Drive	365	3,395	10.8	Yes
G	Marina Drive west of 1 <sup>st</sup> Street	190	6,117	3.1	Yes
H	1 <sup>st</sup> Street south of Marina Drive	416	4,200	9.9	Yes
I	Marina Drive east of 1 <sup>st</sup> Street	112	4,454	2.5	Yes
Note:					
1. An increase of 1.0% or more requires a link analysis per City of Seal Beach criteria.					
Source: Linscott, Law and Greenspan Engineers, <i>Traffic Impact Analysis Report for the Ocean Place Residential Project</i> , October 27, 2011.					

Table 5.5-16, *Existing With Project Roadway Segment Analysis*, summarizes the LOS results at the study roadway segments for existing with project conditions.

**Table 5.5-16  
Existing With Project Roadway Segment Analysis**

Roadway Segment		No of Existing Lanes	Arterial Classification	Existing Capacity at LOS E	Daily Volume	V/C Ratio	LOS
F	1 <sup>st</sup> Street north of Marina Drive	4D	Primary Arterial	37,500	3,395	0.091	A
G	Marina Drive west of 1 <sup>st</sup> Street	2D	Commuter	12,500	6,117	0.489	A
H	1 <sup>st</sup> Street south of Marina Drive	2U	Commuter	12,500	4,200	0.336	A
I	Marina Drive east of 1 <sup>st</sup> Street	2U	Commuter	12,500	4,454	0.356	A
D = divided; U = undivided; V/C = volume to capacity ratio							
Source: Linscott, Law and Greenspan Engineers, <i>Traffic Impact Analysis Report for the Ocean Place Residential Project</i> , October 27, 2011.							

As indicated in Table 5.5-16, all study roadway segments are forecast to operate at an acceptable LOS under existing with project conditions based on City of Seal Beach performance criteria.

#### Forecast Year 2015 With Project Conditions

##### *Peak Hour Intersection Level of Service*

This section analyzes the forecast traffic conditions at the study intersections with the addition of project-generated traffic in the year 2015. Figure 6-6, *Year 2015 Plus Project AM Peak Hour Traffic Volumes*, and Figure 6-7, *Year 2015 Plus Project PM Peak Hour and Daily Traffic Volumes*, of the Traffic Impact Analysis (as provided in Appendix 11.5) illustrate the projected weekday AM and PM peak hour traffic volumes at the study intersections with the addition of project-generated trips to year 2015 peak hour traffic volumes. Figure 6-7 also illustrates year 2015 with project daily traffic volumes at the study roadway segments. Table 5.5-17, Year 2015 With Project Peak Hour Intersection Analysis – Seal Beach and Long Beach, summarizes the peak hour LOS results at the study intersections for year 2015 with project conditions.

**Table 5.5-17  
Year 2015 With Project Peak Hour Intersection Analysis – Seal Beach and Long Beach**

Study Intersection		Year 2015 Without Project				Year 2015 With Project				Significant Impact			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		ICU/HCM	LOS	ICU/HCM	LOS	ICU/HCM	LOS	ICU/HCM	LOS	ICU/HCM	LOS	ICU/HCM	LOS
1	Marina Drive/ Studebaker Road	9.6 sec/veh	A	11.5 sec/veh	B	9.6 sec/veh	A	11.6 sec/veh	B	0.1 sec/veh	No	0.1 sec/veh	No
2	Pacific Coast Highway/ Studebaker Road	0.569	A	0.840	D	0.571	A	0.848	D	0.002	No	0.008	No
3	Pacific Coast Highway/ 1 <sup>st</sup> Street	0.588	A	0.634	B	0.594	A	0.648	B	0.006	No	0.014	No
4	Pacific Coast Highway/ Marina Drive	15.6 sec/veh	C	24.5 sec/veh	C	15.9 sec/veh	C	25.2 sec/veh	C	0.3 sec/veh <sup>2</sup>	No	0.7 sec/veh <sup>2</sup>	No
5	Pacific Coast Highway/Main St/Bolsa Ave	0.588	A	0.676	B	0.588	A	0.676	B	0.000	No	0.003	No
6	1 <sup>st</sup> Street/ Marina Drive	8.5 sec/veh	A	10.0 sec/veh	A	8.6 sec/veh	A <sup>1</sup>	10.2 sec/veh	B	0.1 sec/veh <sup>2</sup>	No	0.2 sec/veh <sup>2</sup>	No
ICU = Intersection Capacity Utilization; HCM = Highway Capacity Manual; sec = seconds; veh = vehicle.													
Note:													
1. The LOS calculations for this intersection consider the street vacation of 1 <sup>st</sup> Street associated with the proposed project and the Marina Park Development that would result in the realignment of the intersection. As part of the realignment, the LOS calculations assume that the northbound approach of 1 <sup>st</sup> Street would provide one left-turn lane and a shared through/right-turn lane, while the southbound approach of 1 <sup>st</sup> Street would provide one left-turn lane, one through lane, and one right-turn lane; refer to Figure 12-1, <i>Conceptual Improvement Plan for 1<sup>st</sup> Street at Marina Drive</i> , of the Traffic Impact Analysis (as provided in <u>Appendix 11.5</u> ).													
2. At uncontrolled intersections, the City of Seal Beach uses the degradation of an LOS for the threshold of significance. A significant impact would occur if the addition of project traffic results in a decrease in LOS by one level or more for those intersections operating at LOS D or E.													
Source: Linscott, Law and Greenspan Engineers, <i>Traffic Impact Analysis Report for the Ocean Place Residential Project</i> , October 27, 2011.													

As indicated in Table 5.5-17, all study intersections are anticipated to operate at an acceptable LOS based on City of Seal Beach and City of Long Beach performance criteria. Thus, impacts to study intersections would be less than significant.

Roadway Segment Level of Service

Table 5.5-18, Year 2015 With Project Roadway Segment Analysis, summarizes the LOS results at the study roadway segments for year 2015 with project conditions.

**Table 5.5-18  
Year 2015 With Project Roadway Segment Analysis**

Roadway Segment		No of Existing Lanes	Arterial Classification	Existing Capacity at LOS E	Daily Volume	V/C Ratio	LOS
F	1 <sup>st</sup> Street north of Marina Drive	2U <sup>1</sup>	Commuter	12,500	3,546	0.284	A
G	Marina Drive west of 1 <sup>st</sup> Street	2D	Commuter	12,500	6,382	0.511	A
H	1 <sup>st</sup> Street south of Marina Drive	2U	Commuter	12,500	4,359	0.349	A
I	Marina Drive east of 1 <sup>st</sup> Street	2U	Commuter	12,500	4,731	0.378	A
U = undivided; D = divided; V/C = volume to capacity ratio							
Note:							
1. As part of the Marina Park project, 1 <sup>st</sup> Street north of Marina Drive will be narrowed from four lanes to two lanes (i.e., one travel lane in each direction). Therefore, this analysis considers the study roadway segment as a commuter arterial.							
Source: Linscott, Law and Greenspan Engineers, <i>Traffic Impact Analysis Report for the Ocean Place Residential Project</i> , October 27, 2011.							

As indicated in Table 5.5-18, all study roadway segments are forecast to operate at an acceptable LOS under year 2015 with project conditions based on City of Seal Beach performance criteria. Thus, impacts to study roadway segments would be less than significant.

Plan-To-Plan Trip Generation Comparison

The *City of Los Angeles Department of Water and Power Specific Plan* (DWP Specific Plan) was adopted by the City in November 1982. That Plan established the primary uses of the site, which included a 300-room hotel and open space/parkland. The DWP Specific Plan also established regulations and conditions intended to provide for open space and visitor serving land uses. The Specific Plan was amended in January 1996 in order to reduce the hotel use to a maximum of 150-rooms.

A plan-to-plan comparison between the existing DWP Specific Plan and proposed Specific Plan Amendment has been prepared to determine the project's net trip generation. Traffic analysis at study intersections does not account for the plan-to-plan comparison; however, this information is provided for comparison purposes. Table 5.5-19, Net Plan-To-Plan Trip Generation, summarizes the overall net trips forecast to be generated by the proposed project when compared to the existing DWP Specific Plan.

As indicated in Table 5.5-19, the proposed project is anticipated to generate 665 fewer daily trips, 37 fewer AM peak hour trips, and 32 fewer PM peak hour trips when compared to the existing DWP Specific Plan.

**Mitigation Measures:** No mitigation measures are required.

**Level of Significance:** Less Than Significant Impact.

**Table 5.5-19  
Net Plan-To-Plan Trip Generation**

Land Use	Daily 2-Way	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
Proposed Project							
Single Family Detached (210)	529	11	32	43	34	20	54
Neighborhood Park (6.4 acres)	32	2	2	4	2	1	3
Total Proposed Project	561	13	34	47	36	21	57
Existing DWP Specific Plan							
Hotel (310)	1,226	51	33	84	47	42	89
Net Difference: proposed project vs. 1996 DWP Specific Plan	-665	-38	+1	-37	-11	-21	-32
Source: Linscott, Law and Greenspan Engineers, <i>Traffic Impact Analysis Report for the Ocean Place Residential Project</i> , October 27, 2011.							

## LONG-RANGE (BUILDOUT YEAR 2030 WITH PROJECT) CONDITIONS

### TRA-3 DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT AND BUILDOUT OF THE SEAL BEACH GENERAL PLAN WOULD NOT RESULT IN SIGNIFICANT TRAFFIC IMPACTS.

**Impact Analysis:** The buildout year 2030 traffic with the proposed project is considered in comparison to the buildout year 2030 traffic conditions without the project. Ambient growth and traffic from cumulative projects are factored into the buildout year 2030 traffic conditions without the project for all of the study intersections.

#### Buildout Year 2030 Without Project Conditions

##### *Peak Hour Intersection Level of Service*

Figure 6-8, *Year 2030 General Plan Target Year AM Peak Hour Traffic Volumes*, and Figure 6-9, *Year 2030 General Plan Target Year PM Peak Hour and Daily Traffic Volumes*, of the Traffic Impact Analysis (as provided in [Appendix 11.5](#)) illustrate the projected weekday AM and PM peak hour traffic volumes at the study intersections with the addition of ambient traffic growth and cumulative projects. Figure 6-9 also illustrates year 2030 daily traffic volumes at the study roadway segments.

Table 5.5-20, *Buildout Year 2030 Without Project Peak Hour Intersection Analysis – Seal Beach and Long Beach*, summarizes the peak hour LOS results at the study intersections for buildout year 2030 without project conditions.

As indicated in Table 5.5-20 all intersections would operate at an acceptable LOS based on City of Seal Beach and City of Long Beach performance criteria under buildout year 2030 without project conditions, with the exception of the following two intersections:

- Pacific Coast Highway/Studebaker Road; and
- Pacific Coast Highway/Marina Drive.

**Table 5.5-20**  
**Buildout Year 2030 Without Project Peak Hour Intersection Analysis –**  
**Seal Beach and Long Beach**

Study Intersection		AM Peak Hour		PM Peak Hour	
		ICU/HCM	LOS	ICU/HCM	LOS
1	Marina Drive/ Studebaker Road	10.0 sec/veh	A	12.8 sec/veh	B
2	Pacific Coast Highway/ Studebaker Road	0.624	B	0.933	E
3	Pacific Coast Highway/ 1 <sup>st</sup> Street	0.658	B	0.709	C
4	Pacific Coast Highway/ Marina Drive	18.5 sec/veh	C	37.7 sec/veh	E
5	Pacific Coast Highway/ Main St/Bolsa Ave	0.655	B	0.754	C
6	1 <sup>st</sup> Street/ Marina Drive	8.7 sec/veh	A	10.8 sec/veh	B
ICU = Intersection Capacity Utilization; HCM = Highway Capacity Manual; sec = seconds; veh = vehicle.					
Source: Linscott, Law and Greenspan Engineers, <i>Traffic Impact Analysis Report for the Ocean Place Residential Project</i> , October 27, 2011.					

#### *Roadway Segment Level of Service*

Table 5.5-21, Buildout Year 2030 Without Project Roadway Segment Analysis, summarizes the LOS results at the study roadway segments for buildout year 2030 without project conditions.

**Table 5.5-21**  
**Buildout Year 2030 Without Project Roadway Segment Analysis**

Roadway Segment		No of Existing Lanes	Arterial Classification	Existing Capacity at LOS E	Daily Volume	V/C Ratio	LOS
F	1 <sup>st</sup> Street north of Marina Drive	2U <sup>1</sup>	Commuter	12,500	3,636	0.291	A
G	Marina Drive west of 1 <sup>st</sup> Street	2D	Commuter	12,500	7,081	0.566	A
H	1 <sup>st</sup> Street south of Marina Drive	2U	Commuter	12,500	4,511	0.361	A
I	Marina Drive east of 1 <sup>st</sup> Street	2U	Commuter	12,500	5,270	0.422	A
U = undivided; D = divided; V/C = volume to capacity ratio							
Note:							
1. As part of the Marina Park project, 1 <sup>st</sup> Street north of Marina Drive will be narrowed from four lanes to two lanes (i.e., one travel lane in each direction). Therefore, this analysis considers the study roadway segment as a commuter arterial.							
Source: Linscott, Law and Greenspan Engineers, <i>Traffic Impact Analysis Report for the Ocean Place Residential Project</i> , October 27, 2011.							

As indicated in [Table 5.5-21](#), all study roadway segments are forecast to operate at an acceptable LOS under buildout year 2015 without project conditions based on City of Seal Beach performance criteria.

#### Buildout Year 2030 With Project Conditions

##### *Peak Hour Intersection Level of Service*

Figure 6-10, *Year 2030 General Plan Target Year Plus Project AM Peak Hour Traffic Volumes*, and Figure 6-11, *Year 2030 General Plan Target Year Plus Project PM Peak Hour and Daily Traffic Volumes*, of the Traffic Impact Analysis (as provided in [Appendix 11.5](#)) illustrate the projected weekday AM and PM peak hour traffic volumes at the study intersections with the addition of project generated trips. Figure 6-11 also illustrates year 2030 with project daily traffic volumes at the study roadway segments.

[Table 5.5-22](#), *Buildout Year 2030 With Project Peak Hour Intersection Analysis – Seal Beach and Long Beach*, summarizes the peak hour LOS results at the study intersections for buildout year 2030 with project conditions.

**Table 5.5-22  
Buildout Year 2030 With Project Peak Hour Intersection Analysis –  
Seal Beach and Long Beach**

Study Intersection		Year 2030 Without Project				Year 2030 With Project				Significant Impact			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		ICU/HCM	LOS	ICU/HCM	LOS	ICU/HCM	LOS	ICU/HCM	LOS	Increase	Yes/No	Increase	Yes/No
1	Marina Drive/ Studebaker Road	10.0 sec/veh	A	12.8 sec/veh	B	10.1 sec/veh	B	12.9 sec/veh	B	0.1 sec/veh	No	0.1 sec/veh	No
2	Pacific Coast Highway/ Studebaker Road	0.624	B	0.933	E	0.626	B	0.942	E	0.002	No	0.009	No
3	Pacific Coast Highway/ 1 <sup>st</sup> Street	0.658	B	0.709	C	0.663	B	0.723	C	0.005	No	0.014	No
4	Pacific Coast Highway/ Marina Drive	18.5 sec/veh	C	37.7 sec/veh	E	19.0 sec/veh	C	39.2 sec/veh	E	0.5 sec/veh <sup>2</sup>	No	1.5 sec/veh <sup>2</sup>	No
5	Pacific Coast Highway/ Main Street/Bolsa Avenue	0.655	B	0.754	C	0.657	B	0.757	C	0.002	No	0.003	No
6	1 <sup>st</sup> Street/ Marina Drive	8.7 sec/veh	A	10.8 sec/veh	B	8.9 sec/veh	A <sup>1</sup>	11.1 sec/veh	B	0.2 sec/veh <sup>2</sup>	No	0.3 sec/veh <sup>2</sup>	No

ICU = Intersection Capacity Utilization; HCM = Highway Capacity Manual; sec = seconds; veh = vehicle.

Note:

- The LOS calculations for this intersection consider the street vacation of 1<sup>st</sup> Street associated with the proposed project and the Marina Park Development project that would result in the realignment of the intersection. As part of the realignment, the LOS calculations assume that the northbound approach of 1<sup>st</sup> Street would provide one left-turn lane and a shared through/right-turn lane, while the southbound approach of 1<sup>st</sup> Street would provide one left-turn lane, one through lane, and one right-turn lane; refer to Figure 12-1, *Conceptual Improvement Plan for 1<sup>st</sup> Street at Marina Drive*, of the Traffic Impact Analysis (as provided in [Appendix 11.5](#)).
- At uncontrolled intersections, the City of Seal Beach uses the degradation of an LOS for the threshold of significance. A significant impact would occur if the addition of project traffic results in a decrease in LOS by one level or more for those intersections operating at LOS D or E.

Source: Linscott, Law and Greenspan Engineers, *Traffic Impact Analysis Report for the Ocean Place Residential Project*, October 27, 2011.

As indicated in [Table 5.5-22](#), all study intersections would continue to operate at an acceptable LOS (LOS D or better) based on City of Seal Beach and City of Long Beach performance criteria under buildout year 2030 with project conditions with the exception of the following two intersections:

- Pacific Coast Highway/Studebaker Road; and
- Pacific Coast Highway/Marina Drive.

The City of Long Beach intersection of Pacific Coast Highway/Studebaker Road is forecast to operate at an acceptable LOS (LOS E) during the PM peak hour with the addition of project traffic. When compared to buildout year 2030 without project conditions, the proposed project would only add 0.009 to the ICU value at this intersection, which is less than threshold of significance (0.020). Further, although the intersection of Pacific Coast Highway/Marina Drive is forecast to operate at an unacceptable LOS (LOS E) during the PM peak hour with the addition of project traffic, the proposed project would not cause this unsignalized intersection to degrade a service level when compared to buildout year 2030 without project conditions. Thus, impacts to study intersections would be less than significant.

*Roadway Segment Level of Service*

Table 5.5-23 *Buildout Year 2030 With Project Roadway Segment Analysis*, summarizes the LOS results at the study roadway segments for buildout year 2030 with project conditions.

**Table 5.5-23  
Buildout Year 2030 With Project Roadway Segment Analysis**

Roadway Segment		No of Existing Lanes	Arterial Classification	Existing Capacity at LOS E	Daily Volume	V/C Ratio	LOS
F	1 <sup>st</sup> Street north of Marina Drive	2U <sup>1</sup>	Commuter	12,500	4,001	0.320	A
G	Marina Drive west of 1 <sup>st</sup> Street	2D	Commuter	12,500	7,271	0.582	A
H	1 <sup>st</sup> Street south of Marina Drive	2U	Commuter	12,500	4,927	0.394	A
I	Marina Drive east of 1 <sup>st</sup> Street	2U	Commuter	12,500	5,382	0.431	A
U = undivided; D = divided; V/C = volume to capacity ratio							
Note:							
1. As part of the Marina Park Development project, 1 <sup>st</sup> Street north of Marina Drive will be narrowed from four lanes to two lanes (i.e., one travel lane in each direction). Therefore, this analysis considers the study roadway segment as a commuter arterial.							
Source: Linscott, Law and Greenspan Engineers, <i>Traffic Impact Analysis Report for the Ocean Place Residential Project</i> , October 27, 2011.							

As indicated in Table 5.5-23, all study roadway segments are forecast to operate at an acceptable LOS under buildout year 2030 with project conditions based on City of Seal Beach performance criteria. Thus, impacts to study roadway segments would be less than significant.

Traffic Signal Warrant. The LOS analysis at the unsignalized intersection of Marina Drive/1<sup>st</sup> Street has been supplemented with an assessment of the need for signalization of the intersection. This assessment is made on the basis of signal warrant criteria adopted by Caltrans (Warrant #3 of the *California Manual on Uniform Traffic Control Devices*). The peak hour traffic signal warrant analysis has been performed for design purposes only.

The results of the peak-hour traffic signal warrant analysis for Existing Plus Project, Year 2015 Cumulative Plus Project Traffic Conditions, and Buildout Year 2030 Plus Project Traffic Conditions are summarized in Table 8-4 (Traffic Signal Warrant Analysis Summary) of the Traffic Impact Analysis (as provided in Appendix 11.5). Table 8-4 indicates that a traffic signal is not warranted at Marina Drive/1<sup>st</sup> Street, as forecast traffic conditions do not exceed the volume thresholds. The unsignalized study intersection of Marina Drive/1<sup>st</sup> Street is forecast to operate at LOS A or B during the AM peak hour and PM peak hour with the existing intersection operating as an all-way

stop; refer to Appendix C of the Traffic Impact Analysis (as provided in Appendix 11.5) for the traffic signal warrant worksheets.

**Mitigation Measures:** No mitigation measures are required.

**Level of Significance:** Less Than Significant Impact.

## CALTRANS FACILITY IMPACTS

### TRA-4 PROJECT IMPLEMENTATION WOULD NOT CAUSE A SIGNIFICANT INCREASE IN TRAFFIC FOR FORECAST CONDITIONS AT CALTRANS INTERSECTIONS.

#### **Impact Analysis:**

##### Congestion Management Program Compliance Assessment

The Orange County Congestion Management Program (CMP) requires that a traffic impact analysis be conducted for any project generating 2,400 or more daily trips, or 1,600 or more daily trips for projects that directly access the CMP Highway System. Per the CMP guidelines, this number is based on the desire to analyze any impacts that will be 3.0 percent or more of the existing CMP highway system facilities' capacity. However, as noted previously, the proposed Project is expected to only generate 529 daily trips, and thus does not meet the criteria required for a CMP traffic analysis. Therefore, it is concluded that the proposed Project will not have any significant traffic impacts on the CMP Highway System.

##### Existing With Project Conditions

##### *Peak Hour Intersection Level of Service*

This section analyzes the forecast traffic conditions at the Caltrans study intersections with the addition of project-generated traffic under existing conditions. Table 5.5-24, Existing With Project Peak Hour Intersection Analysis – Caltrans, summarizes the peak hour LOS results at the Caltrans study intersections for existing with project conditions.

**Table 5.5-24  
Existing With Project Peak Hour Intersection Analysis - Caltrans**

Study Intersection		Existing Without Project				Existing With Project				Significant Impact	
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour	PM Peak Hour
		HCM	LOS	HCM	LOS	HCM	LOS	HCM	LOS	Yes/No	Yes/No
2	Pacific Coast Hwy/ Studebaker Road	21.8 sec/veh	C	31.6 sec/veh	C	21.8 sec/veh	C	31.7 sec/veh	C	No	No
3	Pacific Coast Hwy/ 1 <sup>st</sup> Street	32.3 sec/veh	C	34.6 sec/veh	C	32.5 sec/veh	C	35.4 sec/veh	D	No	No
5	Pacific Coast Hwy/ Main St/Bolsa Ave	16.5 sec/veh	B	19.4 sec/veh	B	16.5 sec/veh	B	19.5 sec/veh	B	No	No
HCM = Highway Capacity Manual; sec = seconds; veh = vehicle.											
Source: Linscott, Law and Greenspan Engineers, <i>Traffic Impact Analysis Report for the Ocean Place Residential Project</i> , October 27, 2011.											

As indicated in Table 5.5-24, all study intersections are anticipated to operate at an acceptable LOS based on Caltrans performance criteria.

#### Forecast Year 2015 With Project Conditions

##### *Peak Hour Intersection Level of Service*

This section analyzes the forecast traffic conditions at the Caltrans study intersections with the addition of project-generated traffic in the year 2015. Table 5.5-25, Year 2015 With Project Peak Hour Intersection Analysis – Caltrans, summarizes the peak hour LOS results at the Caltrans study intersections for year 2015 with project conditions.

**Table 5.5-25  
Year 2015 With Project Peak Hour Intersection Analysis – Caltrans**

Study Intersection		Year 2015 Without Project				Year 2015 With Project				Significant Impact	
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour	PM Peak Hour
		HCM	LOS	HCM	LOS	HCM	LOS	HCM	LOS	Yes/No	Yes/No
2	Pacific Coast Hwy/ Studebaker Road	22.1 sec/veh	C	32.8 sec/veh	C	22.1 sec/veh	C	33.0 sec/veh	C	No	No
3	Pacific Coast Hwy/ 1 <sup>st</sup> Street	34.0 sec/veh	C	39.6 sec/veh	D	34.1 sec/veh	C	41.0 sec/veh	D	No	No
5	Pacific Coast Hwy/ Main St/Bolsa Ave	16.7 sec/veh	B	20.1 sec/veh	C	16.8 sec/veh	B	20.2 sec/veh	C	No	No
HCM = Highway Capacity Manual; sec = seconds; veh = vehicle.											
Source: Linscott, Law and Greenspan Engineers, <i>Traffic Impact Analysis Report for the Ocean Place Residential Project</i> , October 27, 2011.											

As indicated in Table 5.5-25, all Caltrans study intersections are anticipated to operate at an acceptable LOS based on Caltrans performance criteria. Thus, impacts to Caltrans study intersections would be less than significant for year 2015 with project conditions.

#### Buildout Year 2030 With Project Conditions

##### *Peak Hour Intersection Level of Service*

This section analyzes the forecast traffic conditions at the Caltrans study intersections with the addition of project-generated traffic for buildout year 2030. Table 5.5-26, Buildout Year 2030 With Project Peak Hour Intersection Analysis – Caltrans, summarizes the peak hour LOS results at the Caltrans study intersections for buildout year 2030 with project conditions.

As indicated in Table 5.5-26, all Caltrans study intersections are anticipated to operate at an acceptable LOS based on Caltrans performance criteria. Thus, impacts to Caltrans study intersections would be less than significant for buildout year 2030 with project conditions.

**Table 5.5-26**  
**Buildout Year 2030 With Project Peak Hour Intersection Analysis – Caltrans**

Study Intersection		Buildout Year 2030 Without Project				Buildout Year 2030 With Project				Significant Impact	
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour	PM Peak Hour
		HCM	LOS	HCM	LOS	HCM	LOS	HCM	LOS	Yes/No	Yes/No
2	Pacific Coast Highway/ Studebaker Road	22.6	C	35.1	D	22.7	C	36.4	D	No	No
3	Pacific Coast Highway/ 1 <sup>st</sup> Street	38.3	D	51.2	D	38.4	D	53.4	D	No	No
5	Pacific Coast Highway/ Main Street/Bolsa Avenue	17.1	B	21.2	C	17.2	B	21.6	C	No	No
HCM = Highway Capacity Manual; sec = seconds; veh = vehicle.											
Source: Linscott, Law and Greenspan Engineers, <i>Traffic Impact Analysis Report for the Ocean Place Residential Project</i> , October 27, 2011.											

**Mitigation Measures:** No mitigation measures are required.

**Level of Significance:** Less Than Significant Impact.

## HAZARDOUS TRAFFIC CONDITIONS

### TRA-5 DEVELOPMENT OF THE PROPOSED PROJECT COULD RESULT IN A HAZARDOUS TRAFFIC CONDITION EITHER ON-SITE OR IN THE SURROUNDING AREA.

**Impact Analysis:** Primary access to the project site would be provided via Project Driveway No. 1 at Marina Drive ('A' Street) and Project Driveway No. 2 at 1<sup>st</sup> Street ('B' Street); refer to Exhibit 3-3. Secondary access would be provided via a right-turn only alley (Alley 'A') on Marina Drive and a right-turn only alley (Alley 'B') on 1<sup>st</sup> Street. For this analysis, it is assumed that Project Driveway No. 1 would operate as a "right-turn only" access, while Project Driveway No. 2 would operate as a "full access" unsignalized intersection.

#### Project Driveway Traffic Operations

Table 5.5-27, *Project Driveways Peak Hour Intersection Analysis*, summarizes the intersection operations at the two primary project driveways under Year 2015 and Year 2030 traffic conditions at completion and full occupancy of the proposed project.

**Table 5.5-27**  
**Project Driveways Peak Hour Intersection Analysis**

Project Driveway	Intersection Control	Year 2015 With Project				Buildout Year 2030 With Project			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		HCM	LOS	HCM	LOS	HCM	LOS	HCM	LOS
Project Driveway No. 1 at Marina Drive	One-Way Stop	8.8 sec/veh	A	9.6 sec/veh	A	8.9 sec/veh	A	9.8 sec/veh	A
Project Driveway No. 2 at 1 <sup>st</sup> Street	One-Way Stop	9.5 sec/veh	A	10.0 sec/veh	A	9.6 sec/veh	A	10.2 sec/veh	B
Source: Linscott, Law and Greenspan Engineers, <i>Traffic Impact Analysis Report for the Ocean Place Residential Project</i> , October 27, 2011.									

As indicated in Table 5.5-27, the project driveways are forecast to operate at an acceptable LOS for year 2015 and buildout year 2030 with project conditions based on City of Seal Beach performance criteria. Refer to Appendix 11.5, as Appendix D of the Traffic Impact Analysis for daily and peak hour count sheets.

#### Queuing Analysis

A queuing analysis was prepared in order to determine the adequacy of the stacking/storage lengths at the proposed project driveways. The queuing evaluation is based on buildout year 2030 with project peak hour driveway volumes, utilizing HCM unsignalized analysis methodology, which calculates a critical (95th percentile) queue value in number of vehicles.

According to the queuing analysis, the northbound (outbound) movement at proposed Project Driveway No. 1 at Marina Drive would need one vehicle of queue length during the AM and PM peak hours. Review of the proposed site plan indicates that Project Driveway No. 1 provides one outbound lane with stacking sufficient enough to accommodate more than one vehicle. Thus, adequate queue length would be provided.

The eastbound (outbound) movement at proposed Project Driveway No. 2 at 1<sup>st</sup> Street would need one vehicle of queue length during the AM and PM peak hours. Review of the proposed site plan indicates that Project Driveway No. 2 provides one outbound lane with stacking sufficient enough to accommodate more than one vehicle. Thus, adequate queue length would be provided. Additionally, northbound vehicles travelling along 1<sup>st</sup> Street in the vicinity of proposed Project Driveway No. 2 would not queue beyond Central Way, thus maintaining adequate access to the residential homes located on Central Way. Thus, impacts would be less than significant in this regard.

#### Sight Distance Evaluation

At intersections, a substantially clear line of sight should be maintained between the driver of a vehicle waiting at the crossroad and the driver of an approaching vehicle. Adequate time must be provided for the waiting vehicle to either cross all lanes of through traffic, cross the near lanes and turn left, or turn right, without requiring through traffic to radically alter their speed. A sight distance evaluation has been performed at the proposed Project driveways/alleys to determine if adequate sight distance would be provided.

The sight distance evaluation is based on the criteria and procedures set forth by Caltrans in the State's *Highway Design Manual* (HDM). Minimum stopping sight distance was utilized for the evaluation of the proposed project driveways/alleys. Stopping sight distance is defined in the Caltrans HDM to be the distance required by the driver of a vehicle, traveling at a given speed, to bring his vehicle to a stop after an object on the road becomes visible. Stopping sight distance is measured from the driver's eyes, which are assumed to be 3.5 feet above the pavement surface, to an object 0.5-foot high on the roadway.

The following sight distance requirements were utilized for 1<sup>st</sup> Street, which has a posted speed limit of 30 miles per hour (mph) and Marina Drive, which has a post speed limit of 35 mph adjacent to the project site:

<u>Roadway</u>	<u>Design Speed</u>	<u>Stopping Sight Distance</u>
1 <sup>st</sup> Street	30 mph	200 feet
Marina Drive	35 mph	250 feet

Exhibit 5.5-2, *Sight Distance Analysis – Project Access at Marina Drive* and Exhibit 5.5-3, *Sight Distance Analysis – Project Access at 1<sup>st</sup> Street*, provides a schematic of the sight distance evaluations performed at the proposed project driveways/alleys on Marina Drive and 1<sup>st</sup> Street, respectively. These exhibits illustrate the actual sight distances and corresponding limited use areas. As shown, a motorist's sight distance may be obstructed by future project landscapes and/or hardscapes along the project frontage. Exhibits 5.5-2 and 5.5-3 indicate that sight distances at the project driveways and alleys are expected to be adequate if obstructions within the sight triangles are minimized.

Any landscaping and/or hardscapes would be required to be designed such that a driver's clear line of sight is not obstructed and does not threaten vehicular or pedestrian safety, as determined by the City Engineer (Mitigation Measure TRA-2). With implementation of Mitigation Measure TRA-2, potential sight distance impacts associated with the proposed project would be reduced to a less than significant level.

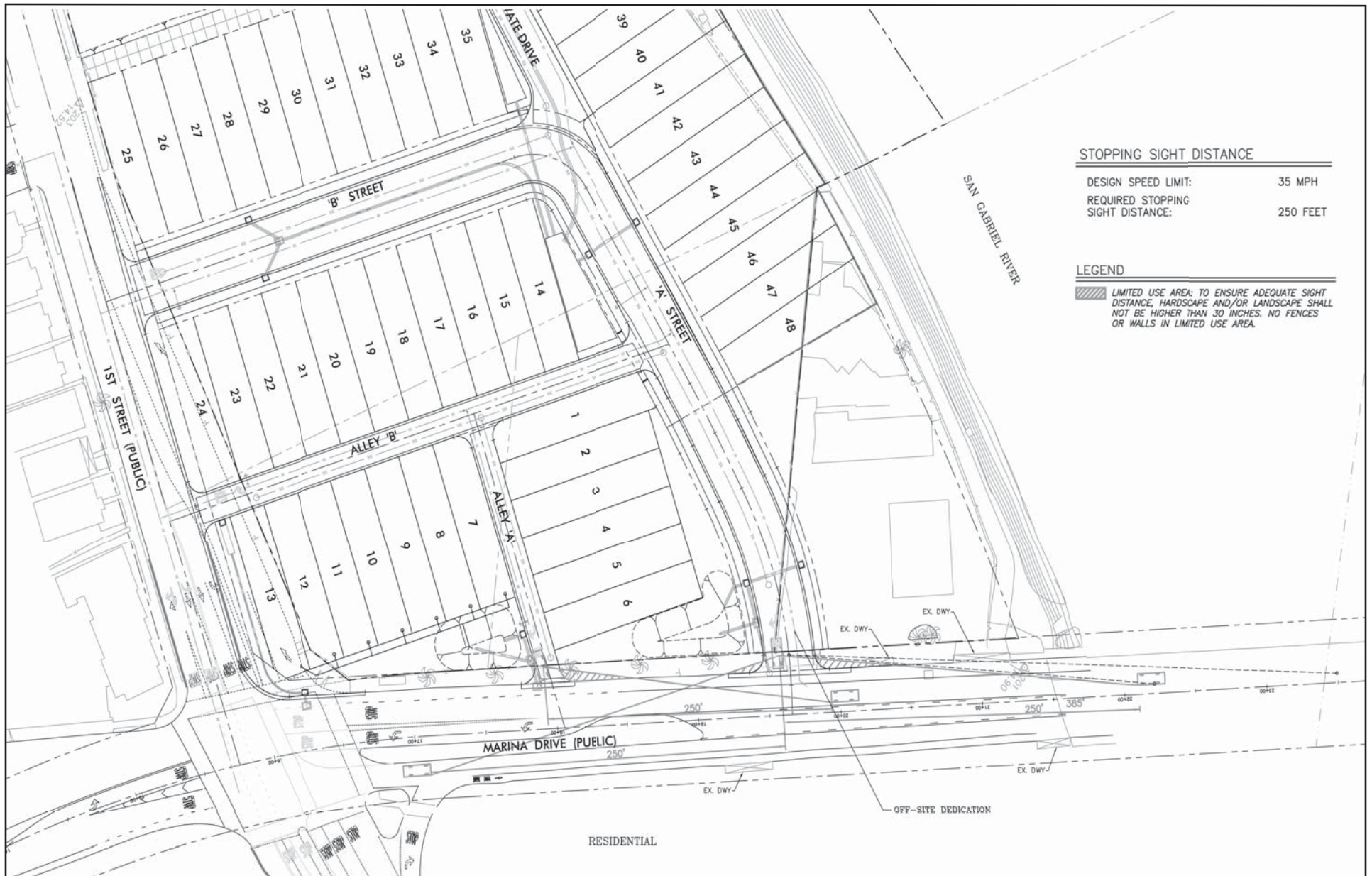
#### Internal Circulation

The proposed project's on-site circulation, as illustrated in Exhibit 3-3, is considered adequate. Curb return radii and the roadway alignment for proposed 'A' Street and 'B' Street have been confirmed and are generally adequate for small service/delivery (FedEx, UPS) trucks and trash trucks, as well as large delivery trucks and fire trucks.

#### Project Site Access and Egress

In order to provide adequate access and egress to the project site, stop signs and stop bars would be required at the project driveways and alleys, including appropriate striping, signage, and/or pavement legends in accordance with Seal Beach standards (Mitigation Measure TRA-3).

In conjunction with the proposed vacation of 1<sup>st</sup> Street, south of Marina Drive, 1<sup>st</sup> Street would be required to be restriped within the proposed 40-foot paved cross section to provide one 16-foot southbound departure lane, a 10-foot northbound left-turn lane, and a 14-foot northbound shared through/right-turn lane. In order to accommodate the proposed project improvements on 1<sup>st</sup> Street, south of Marina Drive, the existing median and roadway cross section would be required to be modified to minimize the offset through the intersection and realign the southbound approach with the proposed northbound approach on 1<sup>st</sup> Street. Within a recommended paved cross section of 40-feet, the proposed project would be required to provide one 16-foot northbound departure lane, a 10-foot southbound left-turn lane, and a 14-foot southbound through lane; a separate southbound right-turn lane would also be required to be maintained (Mitigation Measure TRA-4).



Source: Linscott Law & Greenspan Engineers, October 27, 2011.

NOT TO SCALE

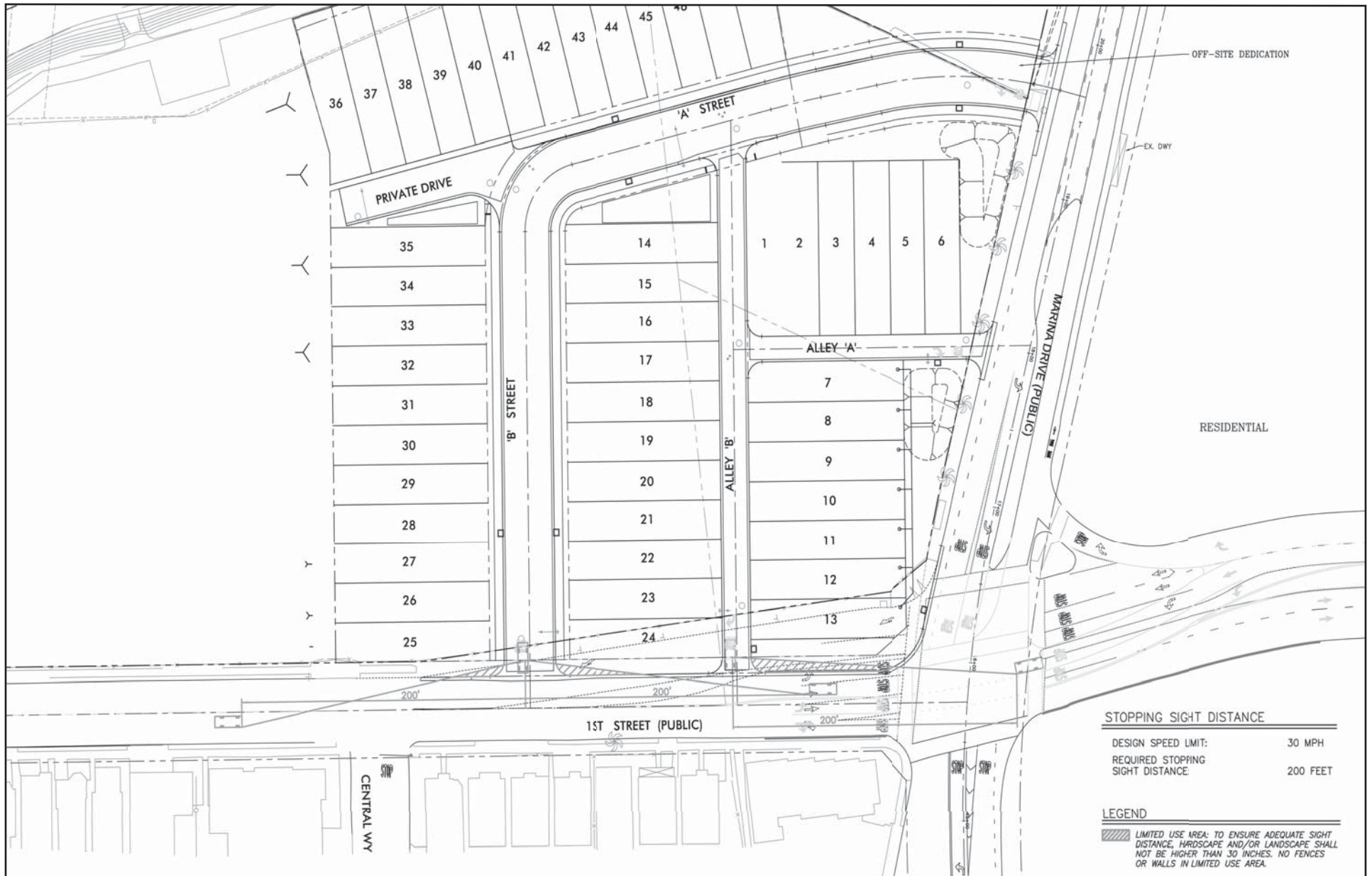
**RBF**  
CONSULTING



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**Sight Distance Analysis – Project Access at Marina Drive**

**Exhibit 5.5-2**



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**Sight Distance Analysis – Project Access at 1st Street**

**Exhibit 5.5-3**

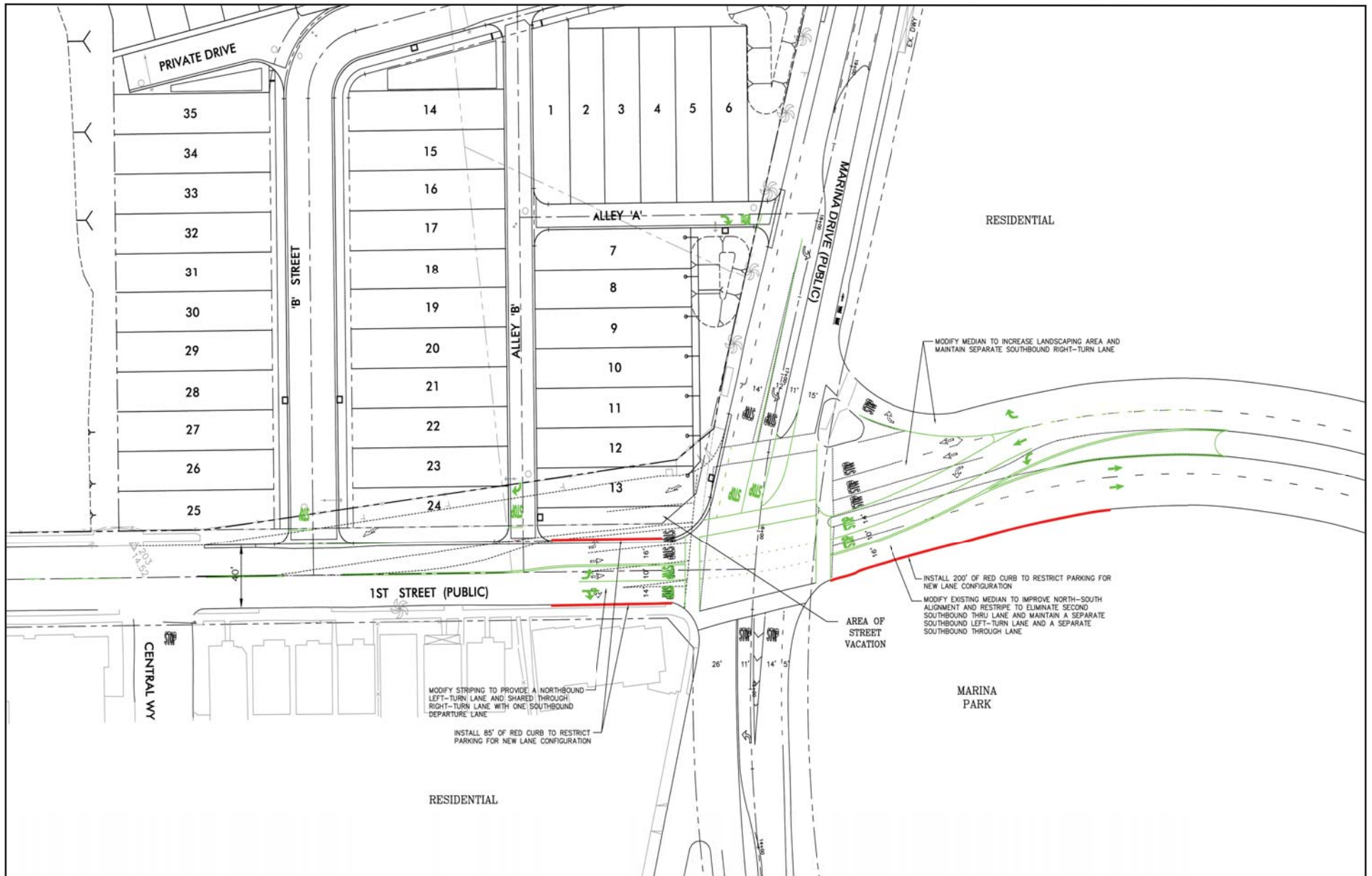
Refer to Exhibit 5.5-4, *Proposed Project Conceptual Improvement Plan – 1<sup>st</sup> Street at Marina Drive*, for the recommended layout of the intersection of 1<sup>st</sup> Street at Marina Drive upon completion of the proposed project. These improvements would further reduce potential access and egress impacts to a less than significant level.

Overall, with implementation of recommended mitigation, the proposed project would not result in a hazardous condition either on-site or in the surrounding area. Impacts would be less than significant.

***Mitigation Measures:***

- TRA-2      Prior to issuance of any grading permits, a Landscape Plan shall be submitted to the City Engineer verifying that all landscaping and/or hardscapes shall be designed such that a driver's clear line of sight is not obstructed and does not threaten vehicular or pedestrian safety consistent with Figure 10-1, *Site Distance Analysis Project Access Points at Marina Drive*, and Figure 10-2, *Site Distance Analysis Project Access Points at First Street*, of the *Traffic Impact Analysis Report for the Ocean Place Residential Project* (Traffic Impact Analysis), prepared by Linscott, Law & Greenspan Engineers (October 27, 2011). The Traffic Impact Analysis is included in Appendix 11.5, *Traffic Impact Analysis* of this EIR and is incorporated by reference into this mitigation measure.
- TRA-3      Prior to the issuance of any building permits, a "STOP" sign and stop bar shall be installed at the project driveway ('A' Street) and alley (Alley 'A') on Marina Drive and at the project driveway ('B' Street) and alley (Alley 'B') on 1<sup>st</sup> Street. Appropriate striping, signage, and/or pavement legends shall also be installed in accordance with Seal Beach standards. These improvements shall be indicated on the grading plan and Final Tentative Tract Map and shall be submitted to the City Engineer for review and approval.
- TRA-4      South of Marina Drive, the project applicant shall restripe 1<sup>st</sup> Street within the proposed 40-foot paved cross section to provide one 16-foot southbound departure lane, a 10-foot northbound left-turn lane, and a 14-foot northbound shared through/right-turn lane. South of Marina Drive, the project applicant shall modify the existing median and roadway cross section to minimize the offset through the intersection and realign the southbound approach with the proposed northbound approach on 1<sup>st</sup> Street. Within a recommended paved cross section of 40-feet, the project applicant shall provide one 16-foot northbound departure lane, a 10-foot southbound left-turn lane, and a 14-foot southbound through lane; a separate southbound right-turn lane shall be maintained. These improvements shall be installed prior to the issuance of any building permits, and shall also be indicated on the grading plan and Final Tentative Tract Map and shall be submitted to the City Engineer for review and approval.

***Level of Significance:*** Less Than Significant With Mitigation Incorporated.



Source: Linscott Law & Greenspan Engineers, October 27, 2011.

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# ENVIRONMENTAL IMPACT REPORT DEPARTMENT OF WATER AND POWER SPECIFIC PLAN AMENDMENT **Proposed Project Conceptual Improvement Plan – 1st Street at Marina Drive**

**Exhibit 5.5-4**

## CONFLICT WITH POLICIES, PLANS, OR PROGRAMS

### **TRA-6 IMPLEMENTATION OF THE PROJECT WOULD NOT RESULT IN A DECREASE OF THE PERFORMANCE OR SAFETY OF PUBLIC TRANSIT, BICYCLE, OR PEDESTRIAN FACILITIES AS A RESULT OF A CONFLICT WITH ADOPTED POLICIES, PLANS, OR PROGRAMS.**

#### ***Impact Analysis:***

##### Transit, Bicycle, and Pedestrian Facilities

Implementation of the proposed project would not impede existing public transit, bicycle, or pedestrian facilities located within the area. Sidewalks would be constructed as part of Tentative Tract Map No. 17425, in accordance with City standards, which would provide pedestrian access to and within the residential development. The open space portion of the project site would allow for park uses, including, but not limited to, natural areas with trails, passive turf areas, and neighborhood-serving play areas (e.g., tot lots). The open space area would be accessible from existing sidewalks and the existing San Gabriel River Bike Trail. Additionally, the San Gabriel River Bike Trail and Class II Bikeways located on Marina Drive would continue to serve the area.

The proposed project would not conflict with any of the following policies of the Circulation Element pertaining to public transit, bicycle, or pedestrian facilities:

- Construct safe, convenient paths for bicycles and pedestrians so as to encourage these alternative forms of transportation.
- Ensure accessibility of pedestrian facilities to the elderly and disabled.
- Require the installation of sidewalks with all new roadway construction and significant reconstruction of existing roadways.

Thus, implementation of the proposed project would not conflict with adopted policies, plans, or programs that would result in a decrease of the performance or safety of public transit, bicycle, or pedestrian facilities. Impacts in this regard are less than significant and no mitigation measures are required.

***Mitigation Measures:*** No mitigation measures are required.

***Level of Significance:*** Less Than Significant Impact.

### 5.5.5 CUMULATIVE IMPACTS

The basis for cumulative analysis is presented in Section 4.0, *Basis of Cumulative Analysis*. Cumulative projects identified as having the potential to interact with the proposed project to the extent that a significant cumulative effect could occur include the:

- Fresh 'n Easy Project;
- Marina Park Development;
- River's End Staging Area and San Gabriel River Bikeway Enhancement Plan; and
- 2<sup>nd</sup> Street and Pacific Coast Highway Project.

The following discussions are included per topic area to determine whether a significant cumulative effect would occur.

■ **CONSTRUCTION OF THE PROPOSED PROJECT, AND OTHER RELATED CUMULATIVE PROJECTS, COULD INCREASE TRAFFIC WHEN COMPARED TO THE TRAFFIC CAPACITY OF THE EXISTING STREET SYSTEM.**

**Impact Analysis:** The Marina Park Development would be the most likely project that would cumulatively contribute to construction traffic impacts in the area due to the proximity to the project site. The Marina Park Development is anticipated to begin construction in 2014 at the earliest. The proposed project anticipates that 24 homes would be constructed in 2014. Therefore, construction activities would likely overlap by one year in a worst case scenario. Construction activities within the overlapping year could result in traffic impacts to local roadways. However, as stated, construction of the proposed project would not result in significant traffic impacts to study intersections or roadway segments. Further, the project would be required to prepare a Construction Management Plan in order to reduce the impact of construction-related traffic upon the local circulation system within the project area. The Marina Park Development would also be required to reduce construction traffic impacts on the local circulation system and implement any required mitigation measures that may be prescribed pursuant to CEQA provisions. Therefore, the project's contribution to cumulative construction traffic impacts would be less than significant.

**Mitigation Measures:** Refer to Mitigation Measure TRA-1.

**Level of Significance:** Less Than Significant With Mitigation Incorporated.

■ **IMPLEMENTATION OF THE PROPOSED PROJECT AND OTHER RELATED CUMULATIVE PROJECTS, WOULD NOT CAUSE A SIGNIFICANT INCREASE IN TRAFFIC FOR EXISTING AND FORECAST YEAR 2015 CONDITIONS WHEN COMPARED TO THE TRAFFIC CAPACITY OF THE STREET SYSTEM.**

■ **IMPLEMENTATION OF THE PROPOSED PROJECT AND OTHER RELATED CUMULATIVE PROJECTS, WOULD NOT CAUSE A SIGNIFICANT INCREASE IN TRAFFIC FOR BUILDOUT YEAR 2030 CONDITIONS.**

■ **IMPLEMENTATION OF THE PROPOSED PROJECT AND OTHER RELATED CUMULATIVE PROJECTS, WOULD NOT CAUSE A SIGNIFICANT INCREASE IN TRAFFIC FOR FORECAST CONDITIONS AT CALTRANS INTERSECTIONS.**

**Impact Analysis:** In addition to future ambient growth, traffic from cumulative projects was also considered in the forecast year 2015 and buildout year 2030 conditions. The analysis provided above within Section 5.5.4 inherently includes cumulative impacts related to the identified cumulative projects within Section 4.0, *Basis of Cumulative Analysis*.

As determined in Section 5.5.4, the proposed project would not result in a cumulatively considerable traffic impacts in regards to local intersections, roadway segments, or Caltrans intersections. Impacts would be less than significant in this regard.

**1<sup>st</sup> Street at Marina Drive Conceptual Improvement Plans**

The Marina Park Development is located to the northeast of the project site and proposes an approximate 3.0-acre expansion of the existing park. The concept level site plan for the Marina Park Development anticipates conversion of two northbound lanes on 1<sup>st</sup> Street. The proposed project would vacate a portion of 1<sup>st</sup> Street at the intersection of Marina Drive, which would be realigned as part of the proposed project.

Exhibit 5.5-5, *Conceptual Improvement Plan Alternative 1 – 1<sup>st</sup> Street at Marina Drive*, and Exhibit 5.5-6, *Conceptual Improvement Plan Alternative 2 (Roundabout) – 1<sup>st</sup> Street at Marina Drive*, present two conceptual improvement alternatives for the intersection of 1<sup>st</sup> Street at Marina Drive upon completion of the proposed project and the Marina Park Expansion project. Alternative 1 (Exhibit 5.5-5) indicates that the proposed cross section/lane geometry of 1<sup>st</sup> Street south of Marina Drive can be designed to accommodate the narrowing of 1<sup>st</sup> Street, north of Marina Drive, which is proposed as a part of the Marina Park Expansion project. Under this alternative, the existing intersections all-way stop control is maintained. Alternative 2 (Exhibit 5.5-6) is a roundabout option. Under Alternative 2, the proposed cross section/lane geometry of 1<sup>st</sup> Street south of Marina Drive as well as the narrowing of 1<sup>st</sup> Street, north of Marina Drive along the Marina Park frontage can be accommodated within the roundabout design. Both plans have been prepared for informational purposes only, and serve to illustrate two potential design options for the 1<sup>st</sup> Street/Marina Drive intersection upon completion of both the proposed project and the Marina Park Expansion project.

Table 5.5-28, *Year 2015 Peak Hour Intersection Analysis – Alternative 2 Roundabout*, and Table 5.5-29, *Buildout Year 2030 Peak Hour Intersection Analysis – Alternative 2 Roundabout*, shows year 2015 and buildout year 2030 level of service results for the intersection of 1<sup>st</sup> Street and Marina Drive assuming implementation of Alternative 2.



### Exhibit 5.5-5



Source: Linscott Law & Greenspan Engineers, October 27, 2011.

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# **Conceptual Improvement Plan Alternative 2 (Roundabout) – 1st Street at Marina Drive**

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**Exhibit 5.5-6**

**Table 5.5-28  
Year 2015 Peak Hour Intersection Analysis – Alternative 2 Roundabout**

Study Intersection		Year 2015 Without Project				Year 2015 With Project			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		HCM	LOS	HCM	LOS	HCM	LOS	HCM	LOS
6	1 <sup>st</sup> Street at Marina Drive	3.5 sec/veh	A	3.9 sec/veh	A	3.6 sec/veh	A	4.0 sec/veh	A
HCM = Highway Capacity Manual; sec = seconds; veh = vehicle. Source: Linscott, Law and Greenspan Engineers, <i>Traffic Impact Analysis Report for the Ocean Place Residential Project</i> , October 27, 2011.									

**Table 5.5-29  
Buildout Year 2030 Peak Hour Intersection Analysis – Alternative 2 Roundabout**

Study Intersection		Buildout Year 2030 Without Project				Buildout Year 2030 With Project			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		HCM	LOS	HCM	LOS	HCM	LOS	HCM	LOS
6	1 <sup>st</sup> Street at Marina Drive	3.6 sec/veh	A	4.1 sec/veh	A	3.6 sec/veh	A	4.2 sec/veh	A
HCM = Highway Capacity Manual; sec = seconds; veh = vehicle. Source: Linscott, Law and Greenspan Engineers, <i>Traffic Impact Analysis Report for the Ocean Place Residential Project</i> , October 27, 2011.									

As shown in [Table 5.5-28](#) and [5.5-29](#), with implementation of a roundabout, the intersection of 1<sup>st</sup> Street and Marina Drive is forecast to operate at acceptable LOS A during the AM and PM peak hours in the Year 2015 and the Year 2030 with the proposed project.

**Mitigation Measures:** No mitigation measures are required.

**Level of Significance:** Less Than Significant Impact.

■ **DEVELOPMENT OF THE PROPOSED PROJECT AND OTHER RELATED CUMULATIVE PROJECTS COULD RESULT IN A HAZARDOUS TRAFFIC CONDITION EITHER ON-SITE OR IN THE SURROUNDING AREA.**

**Impact Analysis:** As stated, the Marina Park Development is located to the northeast of the project site and proposes an approximate 3.0-acre expansion of the existing park. The concept level site plan for the Marina Park Development anticipates conversion of two northbound lanes on 1<sup>st</sup> Street. The proposed project would vacate a portion of 1<sup>st</sup> Street at the intersection of Marina Drive, which would be realigned as part of the proposed project. It is anticipated that proposed intersection/roadway modifications associated with the proposed project and Marina Park would be coordinated to ensure cumulative hazardous conditions would not occur.

Primary access to the project site would be provided via project driveways and alleys on Marina Drive and 1<sup>st</sup> Street. The project driveways are forecast to operate at an acceptable LOS for year 2015 and buildout year 2030 with project conditions and would not result in a hazardous condition within the area. Mitigation would be required to ensure safe ingress and egress to and from the

project site. Further, adequate queuing would be provided for vehicles exiting the project site. With implementation of recommended mitigation, sight distance impacts associated with the proposed driveways/alley would not occur. Cumulative development projects would be reviewed on a project-by-project basis to ensure that hazardous conditions do not occur. Individual projects would be required to implement required mitigation measures that may be prescribed pursuant to CEQA provisions. Project impacts would not be cumulatively considerable and impacts in this regard would be less than significant.

***Mitigation Measures:*** Refer to Mitigation Measures TRA-2, TRA-3, and TRA-4.

***Level of Significance:*** Less Than Significant With Mitigation Incorporated.

■ **IMPLEMENTATION OF THE PROJECT AND RELATED CUMULATIVE PROJECTS WOULD NOT RESULT IN A DECREASE OF THE PERFORMANCE OR SAFETY OF PUBLIC TRANSIT, BICYCLE, OR PEDESTRIAN FACILITIES AS A RESULT OF A CONFLICT WITH ADOPTED POLICIES, PLANS, OR PROGRAMS.**

***Impact Analysis:*** Cumulative projects would be required to comply with each respective City's adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities on a project-by-project basis. Further, individual development projects would be required to comply with City parking standards.

Implementation of the proposed project would not impede the existing public transit, bicycle, or pedestrian facilities. Sidewalks would be constructed as part of Tentative Tract Map No. 17425, in accordance with City standards, which would provide pedestrian access to and within the residential development. The proposed project would not conflict with any of the applicable policies of the Circulation Element pertaining to public transit, bicycle, or pedestrian facilities. Thus, implementation of the proposed project would not conflict with adopted policies, plans, or programs that would result in a decrease of the performance or safety of public transit, bicycle, or pedestrian facilities. The residential development would be required to provide adequate parking in conformance with the City's Municipal Code. Project impacts would not be cumulatively considerable and impacts in this regard would be less than significant.

***Mitigation Measures:*** No mitigation measures are required.

***Level of Significance:*** Less Than Significant Impact.

## 5.5.6 SIGNIFICANT UNAVOIDABLE IMPACTS

No significant unavoidable impacts related to traffic and circulation have been identified.